

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 825.---Vol. XXI.]

LONDON, SATURDAY, JUNE 14, 1851.

[PRICE 6D.]

IMPORTANT SALE OF VALUABLE MACHINERY, TOOLS, &c., AT THE

CLARENCE FOUNDRY, LIVERPOOL.

MR. T. M. FISHER AND SON will sell, BY AUCTION, on the Premises, at Eleven o'clock in the forenoon, each day, from Wednesday, the 2d of July, to Saturday, the 16th of August, both inclusive, all the valuable

MACHINERY, TOOLS, AND STOCK IN TRADE,

of that extensive establishment, consisting of THREE HIGH-PRESSURE and ONE CONDENSING STEAM-ENGINES, with boilers, cisterns, pipes, &c., varying in power from 5 to 30 horses each.

TWO large and powerful horizontal BORING MILLS, the largest capable of boring cylinders 120 inches diameter, 14 feet stroke, and with a face-plate 11 feet diameter, capable of turning 18 feet diameter; the other mill capable of boring cylinders 24 inches diameter, 11 ft. stroke, with a face-plate 24 ft. diameter, capable of turning 12 ft. in diam.

Eight slotting or key grooving machines, capable of slotting on the largest size, 3 feet 6 inches deep, and 10 feet 6 inches diameter, down to the smallest articles on the smallest sizes, with self-acting slides in every direction; 15 planing machines, adapted for all kinds of marine, locomotive, and general engineering work, with capability to plane from 10 feet broad, 16 feet long, and 3 feet 9 inches high, on the largest, down to the smallest sizes; 2 large vertical boring mills, capable of boring 3 feet diameter and 3 feet deep, with tables, slides, &c.; 74 turning lathes, varying in size from 6 inches to 3 feet 6 in. head-stocks, and consisting of all varieties of lathes—viz.: Heavy slide lathes for marine and locomotive work, Whitworth's slide screw-cutting lathes, 15-inch and 10-inch heads, with change wheels; Back gear and single speed lathes, with beds varying from 4 feet 6 inches to 30 feet in length, 20 drilling machines, various sizes, 6 nibbling machines, 3 screwing machines, 2 nut-cutting machines, 6 punching machines, patent riveting machine, rivet and washer-making machine, bar cutting machine, 7 cwts. Massey's steam hammer, 23 smiths' fires, with all the tools, cranes, and anvils in connection with them.

13 large and powerful foundry and erecting shop cranes, 7 travelling crab winches, 6 portable pillar and wall cranes, grinding and planing apparatus, iron and brass foundry tools and utensils, weighing machines, loam mill, hydraulic presses, lories, carts, wheelbarrows, and a most extensive and valuable assortment of patterns and plans of every description of engine and mill-work generally, including saw-mills, sugar-mills, rolling-mills, dredging machines, &c., besides a great variety of machines and tools, which will be fully described in the catalogues.

The whole will be on view any day prior to the sale.

Catalogues are now ready, and may be had on the premises, and from the auctioneers, No. 29, Princess-street, Manchester, who will forward the same, on application, by post any time before the sale.

TO CAPITALISTS.

TO BE SOLD, A SLATE AND SLAB QUARRY, situate within 6d. per ton cost water carriage from an excellent port in CARNARVON-SHIRE, extensively opened and ready for immediate productive operation. The LEASE is for TWENTY ONE YEARS—Royalty, 1-12th.

The WIDTH of the VEIN is about SIXTY YARDS, and its dip, inclination, and stratification are similar to the same features in the great Festiniog Quarries. The METAL is of the very FIRST QUALITY, wholly free from sulphur or other blemish, kind in rendering and working, true in cleavage, and, from its purity, density, and tenacity, is admitted to be superior to the produce of most quarries for the various purposes for which slate is polished and enamelled. The colour is a beautiful blue, tinged with purple.

A waterfall descends within 100 yards of the quarry, which supplies an inexhaustible motive power for the working of machinery.

There are erected on the premises an OFFICE, fitted-up complete; an extensive well-built ENGINE-HOUSE, capable of containing double the present power of machinery, which now comprises a capital water-wheel, 22 feet in diameter, two large circular sawing machines, one large planing machine, water launders, gearing, and everything in the most convenient and complete order, together with about 2000 feet of bar-iron for tramroads, waggon, sledges, and every requisite necessary in the working of a quarry. A quantity of slabs has been quarried and manufactured, and a price of 4s. per square yard has been obtained for the produce at the quarry.

Satisfactory reasons will be shown for the disposal of the property, and any gentleman or company wanting an investment of this description will find an opportunity rarely presented, as it is confidently asserted that the merits of this quarry, and its local advantages for traffic and economical working, are certainly unrivalled in the Principality.

WILL BE SOLD A BARGAIN.

Apply to Mr. James Bywater, mining agent, 79, Christian-street, Liverpool.

TO BE SOLD, THE WHOLE, OR PART, OF THE TAKEE'S INTEREST IN THE GRANT, for THIRTY-ONE YEARS, from the date of lease (which can be demanded at any time), of a considerable TRACT OF LAND, abundant in MINERAL VEINS, situate at TALSARONA, in MERIONETHSHIRE, on the opposite coast to Port Madoc, and but one mile distant from a shipping place.

This district, in which is situate the Crafnant Mine, famous for the richness of its ores, is admitted by all miners to be in the highest degree metalliferous, and that the strata of ground in which the many strong, regular, and well-defined lodes running through this district are located, are highly congenial for copper.

A shaft has been sunk upon one lode to the depth of about 6 fathoms, from which a quantity of muffle has been raised, as also about 2 tons copper ore, producing 13 p. cent. Feeling perfectly convinced that a rich deposit of ore will be found at the same shallow depth as at the Crafnant Mine, the advertiser would prefer selling a part of his interest to the whole, so that the means, not at present at his command, may be raised to further prosecute this ancient and profitable mine.

Apply to James Bywater, mining agent, 79, Christian-street, Liverpool.

CARMARTHENSHIRE.

TO BE IMMEDIATELY SOLD, OR LET, BY PRIVATE CONTRACT, on a long lease of years, upon moderate and advantageous terms, SEVERAL VEINS OF ANTHRACITE COAL AND IRON ORE,

called the "Black-band," together with THREE FARMS, in the parish of BETTWS, containing about 112 acres of land.

There are FOUR VEINS OF COAL—one is 6 feet thick, and the three others above 3 feet each, which will yield such a quantity of coals as to produce, by a royalty of 6d. per ton only, upwards of £50,000. The Black-band is about 14 inches thick, and will yield, by the like royalty, upwards of £18,150.

There are, besides, several STRATA OF RED IRON ORES on these premises, which, together with the value of the surface, are to be taken into consideration.

These premises are on the banks of the Aun, on the alignment of the Llanelly Railway, and within about a quarter of a mile of it, on an inclined plane; and it is believed that the South Wales Railway will form a junction with the Llanelly Railway in the course of this year, whereby there will be a communication with all the kingdom.

There is also a QUARRY of very fine FLAGSTONES upon these lands.

For further particulars apply to Thomas Parry, Esq., or to Mr. John Williams, solicitors, Carmarthen.—Carmarthen, June 10, 1851.

NORTH WALES.—SLATE AND SLAB QUARRY.

TO BE DISPOSED OF, for a term of years, the valuable SLATE AND SLAB QUARRY, called ESQAIR QUARRY, situated in the parish of PENNAL, in the county of MERIONETH. This Quarry was opened at considerable expense by the late proprietor, and is now to be disposed of, in consequence of his death.

The quality of the Stone has been proved to be sound and good, and there is every facility for working, there being ample fall for rubbish, and a plentiful supply of water close at hand.

The Quarry is within about a mile of the Machynlleth and Corris turnpike-road, and distant from the shipping place of Darwenlas about five miles—thus rendering the expense of carriage very inconsiderable.

For further particulars apply to Mr. David Howell, solicitor, Machynlleth.

TO COLLIERY OWNERS.—FOR SALE, BY PRIVATE CONTRACT,—THREE HUNDRED FATHOMS OF PUMPS, 11 to 13 inches in diameter; 3 brass working barrels, 12 inches in diameter, and 10 feet 6 inches long; 1 ditto ditto, 12 inches in diameter, and 10 feet 6 inches long; 1 ditto ditto, 10 inches in diameter, and 10 feet 6 inches long; Also, bucket and clack doorpieces, spears, spear-plates, and bolts, and bottom-rod, complete, for six sets of pumps.

Application to be made at the Wearmouth Colliery, Sunderland. Wearmouth Colliery, June 6, 1851.

TO CAPITALISTS, COALOWNERS, AND OTHERS.—

TO BE LET, with early possession, A COLLIERY, situate in the South-Warwickshire Coal District, on the line of the Midland Railway, and within a short distance of the Manchester, Sheffield, and Lincolnshire Railway, by which ready access is obtained to excellent markets, at a small cost. The seam being got averages from 3 ft. 6 in. to 3 ft. 9 in. in thickness, of which about 100 acres are yet to be got. There are also two other seams, each about 5 feet thick, beneath the one now being worked.

There are the requisite cottages, offices, workshops, &c., on the premises, and the colliery is fitted with all necessary plant for carrying on an extensive trade, which can be taken at a valuation. Sufficient reasons can be given for the present offer declining the business.

For any further particulars, and to view the colliery, apply (by letter) to "A.Z." per any letter-office, Sheffield.

PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES AND CLOCKS.

E. J. DENT, 25, Strand; 33, Cockspur-street; 34, Royal Exchange (clock tower area), Watch and Clock Maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1848. His latest watches, rolled in four holes, 6 gs. each; in gold cases, from 25 to 40 gs. extra. Gold horizontal watches, with gold dials, from 5 gs. to 15 gs. each.

DENT'S PATENT DIPLIODESCOPE.

or Maridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use are, each, sent to customers gratis.

MR. JAMES CROFTS, of 4, KING-STREET, CHEAPSIDE, MINING BROKER, renews his OFFERS of SERVICE to CAPITALISTS seeking the means of SECURE INVESTMENTS, which can be made to yield an annual income of 15 to 20 per cent.

MR. CROFTS HAS SPECIALTY FOR SALE—

All-y-Crib (10 shares)	Penzance Consols (50 shares)
Appledore (10 shares)	Rocks and Trevelyan (100 shares)
Bedford United (5 shares)	Royale, Leek (100 shares)
Bodmin Consols (5 shares)	South Tamar (80 shares)
Bronfild (40 shares)	Warleggan (20 shares)
Daren (10 shares)	West Frances (1 share)
Devon and Courtney (50 shares)	West Selon (1 share)
East Ballawidden (30 shares)	West Tolgus (3 shares)
East Tamar (30 shares)	Wheal Creber (5 shares)
East Wheal Josiah (140 shares)	Wheal Lovell (3 shares)
Henrick (13 shares)	Wheal Tremar (30 shares)
Herodfoot, 2 (1024ths) shares	Wheal Trevelyan (230 shares)
Holmbush (8 shares)	Wheal Vincent (750 shares, 3000ths)
Lambrook (5 shares)	Woodman's Well and Broadbridge

The partial dullness in mining shares, and the consequent decline in prices, may be regarded as quite a temporary character, and capitalists are reminded that the safest period to make purchases is in a depressed market, especially when, as in the present case, the depreciation arises chiefly from the increased value of money. Mr. Crofts can point out regularly-paying dividend mines, which will yield at present prices 25 per cent. per annum interest.

Mr. Crofts is not a dealer in shares, but transacts business only for principals. No. 4, King-street, Cheapside, June 14, 1851.

MR. JAMES CROFTS, with a view to his own guidance in RECOMMENDING INVESTMENTS IN MINES IN THE UNITED KINGDOM, and for the satisfaction of his Friends who may honour him with their confidence, proposes to establish a

REGISTRY OF MINES.

to be derived from parties interested either as adventurers or managers. In furtherance of this object, Mr. Crofts solicits information, not embracing mere reports, but of a statistical character, such as an account of the capital expended or employed on a given undertaking—the returns per month, and the expected rate of dividend in dividend mines, and the general prospects of all others.

Such information will be registered in a book to be kept for the purpose, and open to intended investors, with reference, if required, to the parties furnishing the same, so as to exempt Mr. Crofts from responsibilities, except such as he may voluntarily incur as a test of facts. Of course, the information both received and given must be free of charge. Dated No. 4, King-street, Cheapside, June 13, 1851.

MR. J. H. MANDEVILLE, MINING AND GENERAL SHARE AGENT.

No. 32, CHANGE-ALLEY, CORNHILL.

MR. JAMES NAPIER, CONSULTING CHEMIST.

—Mr. J. NAPIER respectfully intimates that he ASSAYS and ANALYSES ORES and METALS, and EXAMINES SOILS and ARTICLES used in the CHEMICAL ARTS and MANUFACTURES. He may be consulted on the application of his Reports to Manufacturing purposes, and is willing to give assistance confidentially in working out Chemical Patents.—Orders and sample-parcels may be addressed to the care of Messrs. Griffin and Co., 40, Buchanan-street, Glasgow.—Hamilton-place, Farnick.

MR. ALFRED SENIOR MERRY, DEALER IN COBALT

AND NICKEL ORES, AND ASSAYER IN GENERAL.—Address: LEE-CRESCENT, BIRMINGHAM.

MR. BELL WILLIAMS, MINE BROKER AND VIEWER,

16, CASTLE-STREET, LIVERPOOL.

MR. JOHN DAVIES, MINING SHAREBROKER,

No. 38, TOWER-BUILDINGS, TOWER-GARDEN, LIVERPOOL.

MINING SHARES.—MR. HENRY VATCHER, EXETER,

OFFERS his ADVICE and ASSISTANCE to PARTIES willing to INVEST in the ABOVE SECURITIES. Ten years' residence in Exeter, together with periodical visits to nearly all the Mines in Devon and Cornwall, enables him to become thoroughly acquainted with their respective merits.—MR. VATCHER has at his command, at all times, practical and experienced agents, so that if any inspection is required, the same can be done without delay.

MINING AND RAILWAY OFFICES, No. 3, CASTLE-

TERRACE, EXETER.—MR. JOHN JURY, RAILWAY AND MINING SHAREBROKER, OFFERS his SERVICES to CAPITALISTS in the PURCHASE or SALE of ANY DESCRIPTION OF PROPERTIES, and will be happy to point out a selection of such stock as appears the most eligible, from data that can only be arrived at by those who give an undivided attention to the subject.—Every information afforded (either in person or by letter) to capitalists wishing to invest or exchange their securities, and sales or purchases effected upon the best terms, and at one-half the commission usually charged.

MINING INVESTMENT.—THOMAS FULLER AND CO.,

51, THREADENEE-STREET, LONDON, have on hand DEVON CONSOLS Copper Mine, having the same stratum of ground, and running parallel with and having the same great cross course, and within a short distance of the present rich lode of these productive mines, which, with £1 paid, are now marketable at £310, and paying 45s. per annum in dividends.—T. Fuller and Co. have also SHARES in Appledore Silver-Lode, Wheal Caradon Copper, Peter and Mary Tavy Consols, Wheal Franco, &c., and will give pleasure in furnishing all particulars connected therewith.

MINING OFFICE, 3, GEORGE-YARD, LOMBARD-

STREET.—Messrs. TREDINNICK & CO. (formerly of Three Kings-court and 52, Threaddenee-street, London) beg to inform their numerous Friends that they have RESUMED BUSINESS at the ABOVE ADDRESS, OF PURCHASING and SELLING SHARES IN MINES, RAILWAYS, and other PUBLIC COMPANIES, as well as the NEGOTIATION of every description of MONETARY MATTERS, together with

the MISSION BUSINESS IN GENERAL.

MINING AND SHARE OFFICES,

No. 7, GEORGE-YARD, LOMBARD-STREET.

Messrs. H. BOXALL & CO., in announcing their REMOVAL from Crosby Hall Chambers to the ABOVE ADDRESS, beg respectfully to solicit a CONTINUANCE of FAVOURS so liberally conferred, and at the same time to call the attention of PARTIES seeking profitable INVESTMENTS to the advantages which MINING PROPERTY offers when judiciously selected, as compared with any other securities: it may be sufficient to state, that can be bought to pay from 15 to 25 per cent. per annum. This is a favourable time for purchasing dividend-paying stock, while greater caution was never more required than at present in selecting from the many new, "and some worthless," schemes, such as are likely to be eventually remunerative.

Our Mr. B. having become a member of the New Mining Exchange, we are in a position to do full justice to our friends, either in the PURCHASE or DISPOSAL of MINING PROPERTY. We publish a daily List of Prices of what may be termed "Active Stocks," which we shall be happy to forward to any parties requiring the same.—April 16, 1851.

MINING OFFICES, No. 75, OLD BROAD-STREET.

Mr. T. P. THOMAS begs to inform his friends that he has REMOVED from No. 3, George-yard, to the ABOVE ADDRESS, where he hopes to receive a continuation of their favours.

MR. T. JORDAN, MINING SHARE & METAL BROKER,

No. 75, OLD BROAD-STREET, OFF.

MESSRS. TREVARTON AND CO., MINING SHARE

DEALERS AND BROKERS,—5, ST. JAMES'S-STREET, FLEMING-MALL.

MR. PEET, MINING AGENT, 48, THREADENEE-STREET,

is now prepared to OFFER his SERVICES in the FORMATION of MINING COMPANIES, on the Cost-book System; and also to CONDUCT the LONDON AGENCY of those already established. His offices are advantageously situated. Satisfactory references can be given.—London, April 5, 1851.

MINES.—MOLYNEUX & CO., MINING and GENERAL

SHARE AGENTS, 34, THREADENEE-STREET, 6, FINSBURY-PLACE SOUTH, and 6, WEST-STREET, FINSBURY-CIRCUS, have SHARES on SALE in DIVIDEND-PAYING and OTHER MINES, which will ensure to CAPITALISTS the most and most unexceptionable investment.

MOLYNEUX & CO. grateful for past favours, beg to call the attention of their friends to their newly-occupied OFFICES, No. 34, THREADENEE-STREET, where every attention will be paid to the PURCHASE or SALE OF SHARES.

Office hours from Ten to Four o'clock.

REGISTRY FOR THE SALE AND PURCHASE

OF MINING SHARES.

DURANT & CO., MINING SHAREBROKERS, 58, LOMBARD-STREET, LONDON.

Beg to draw the attention of Capitalists to their REGISTRY for the SALE and PURCHASE OF SHARES.

Shares for Disposal.

Devon Great Consols	Wheal Mary Ann	South Wales
Carn Brea	Wellington	Great Wheal Shaft
West Caradon	West Buller	Trevelyan
Trelawny	Tolgus	Bedford United

N.B.—Statistical information furnished on British and Foreign Mines.—No CHANGE made for the registration of shares unless business be transacted.

WANTED TO BORROW, ON MORTGAGE, upon one of the finest COLLIERIES in England, SEVENTEEN THOUSAND POUNDS.

—The lessees have full powers given to mortgage, and the securities they offer are valued at £61,000. The mines are in full working operation, and the veins have been proved to be the finest of the kind in the district. The mines will take at least 100 years to clear, and be in full working operation. The money required would be returned in 15 years, to suit the parties making the advance, and 5 per cent. per annum would be given, and paid half-yearly.—Apply by letter to 45, Gibson's-square, Islington, London.

MANAGER WANTED FOR THE COPPER SMELTING

WORKS OF THE MINES ROYAL COPPER COMPANY, IN WALES. A MANAGER is REQUIRED, who is practically acquainted with the OLDER and more RECENT MODES of SMELTING COPPER ORES; and it is desirable that he should have had either the entire or an important part in the management of works of this description.—Applications to be made (by letter only), with references, addressed to the Secretary, Mines Royal Company, Dowgate, London.—June 12, 1851.

TO BUILDERS, &c.—PERSONS desirous of TENDERING

for the ERECTION of the BUILDERS' WORK for the NEW MARKET HOUSE, BOLTON, can INSPECT the DRAWINGS, and obtain printed Specifications and Quantities at the office of the architect, Mr. G. T. Robinson, 3, Castle-street, Wolverhampton, from Monday, the 7th July, until Wednesday, the 16th July; and at the offices of the Town Clerk, Bolton, from Thursday, the 17th July, until Thursday, the 31st July.

Sealed tenders to be delivered on or before the 1st of August, at the office of Mr. Knowles, Town Clerk, Bolton.

TO IRONFOUNDERS, &c.—PERSONS desirous of

TENDERING for the ERECTION of the IRONWORK for the NEW MARKET HOUSE, BOLTON, can INSPECT the DRAWINGS, and obtain printed Specifications and Quantities at the offices of the architect, Mr. G. T. Robinson, 3, Castle-street, Wolverhampton, from Monday, the 7th July, until Wednesday, the 16th July; and at the offices of the Town Clerk, Bolton, from Thursday, the 17th July, until Thursday, the 31st July.

Sealed tenders to be delivered on or before the 1st of August, at the office of Mr. Knowles, Town Clerk, Bolton.

BRITISH ELECTRIC TELEGRAPH COMPANY.

TENDER FOR WORKS.

TO CONTRACTORS FOR EARTHWORK, PIPE-LAYING, &c.

The BRITISH ELECTRIC TELEGRAPH COMPANY are desirous of RECEIVING TENDERS for the PERFORMANCE of their TRENCH WORK between LIVERPOOL and MANCHESTER.—Specifications may be seen, on and after Thursday, the 19th inst., at the Central Offices of the Company, Royal Exchange, London; and at their offices Manchester and Liverpool. By order, GEORGE SAWARD, Secretary.

Central Offices, Royal Exchange, London, June 6, 1851.

MECHANICAL SELF-ACTING CLOG—PATENT

RIGHT FOR SALE.—In Class XVI, No. 128, in the Great Exhibition, is an IMPROVED CLOG, but in the Official Catalogue, it appears, by mistake, in Class XX, No. 244.—The CLOG exhibited, though in appearance like the ordinary French Clog, is so constructed that, by means of a drop-lever connected with a lever and spring, it can be put on and removed from the foot with the greatest ease, without stooping or touching it with the hands. Patented by the inventor, Mr. George Roberts, surgeon-dentist, Tavistock.—For price of patent right, and further particulars, apply to Messrs. Campin and Co., patent agents, 166, Strand, London; or Mr. Robert Luxton, Guildhall-building, Tavistock, at either of which places a model of the invention can be seen.

TO BE LET, for any term of years the taker may desire, a

SLATE QUARRY, at WELTOWN, within a mile of the Harbour of Boscawen, now in the occupation of Mr. Avery, of Boscawen, the proprietor, to whom application may be made.—Boscawen, May 19, 1851.

ALL-Y-CRIB MINE.—At a MEETING of the Committee

of this Mine, it is this day determined, that CERTIFICATES are UNNECESSARY, and are, therefore, cancelled. All transfers of shares to be made in the usual way, through me, as purveyor of the mine.—June 7, 1851. (Signed) EDW. HOLLOWAY.

CEFN GWYN SILVER-LEAD MINE.—NOTICE.

APPLICATIONS for the remaining SHARES of the NEW ISSUE in this Mine, CANNOT BE RECEIVED after the 25th JUNE inst. JOHN BOWES, Secretary.

41, Threaddenee street, City.

GREAT BRYN CONSOLS COPPER AND TIN MINE.

Situate in the parish of WITHEL, near BODMIN, CORNWALL.

Applications for the remaining shares to be made to the Committee of Management, W. M. Kearns, Esq., No. 3, Bloomsbury-place, Bloomsbury-square; or to Mr. Lelean, No. 5, Crosby-hall Chambers, Bishopsgate-street, London.

GENERAL MINING ASSOCIATION.—Notice is hereby

given, that the YEARLY GENERAL MEETING of the Proprietors in this Company will be HELD at this Office on Thursday, the 26th day of June, at One o'clock in the afternoon precisely, for the purpose of receiving and considering a Report of the Directors, of announcing a dividend, and of transacting the ordinary business of the Association; at this meeting Nathaniel Gould, Esq., and Henry Watts, Esq., two of the present directors, and William Digby Seymour, Esq., one of the auditors, will vacate their seats by rotation, and being immediately eligible, are candidates for re-election.

By order of the Board of Directors, J. B. FOORD, Secretary.

Office of the General Mining Association, 52, Old Broad-street, London; June 10, 1851.

KINZIGHTAL MINING ASSOCIATION.—NOTICE OF

CALL.—Notice is hereby given, that the DIRECTORS of the KINZIGHTAL MINING ASSOCIATION have this day made a CALL of TEN SHILLINGS (or Six Florins) per share, and have appointed the same to be PAID, on or before the 23d June, to their bankers—viz.: In London, Messrs. Masterman, Peters, and Co. In Stuttgart, Messrs. Doertenbach and Co.

By the Statutes of the Association, interest, at the rate of 5 per cent. per annum, will be charged upon all sums in arrear after the 23d of June. By order of the board, GEO. COPELAND CAPPER, Secretary.

London, May 31, 1851.

KENMARE AND WEST OF IRELAND COPPER

AND SILVER-LEAD MINING COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders in the above Company will be HELD at the Offices, 62, Moorgate-street, London, on Thursday, the 26th day of June inst., at Twelve o'clock at noon, for the purpose of receiving the Reports of Mr. Hoskins, the agent appointed by the Company to inspect the mines, and considering and confirming the contracts and engagements entered into by the Directors on behalf of the Company for the purchase of the mines, steam-engine, plant, and for the transaction of business generally.

EDW. MANBY, Secretary pro tem.

MARMATO MINING COMPANY.—Notice is hereby given,

that the ANNUAL GENERAL MEETING of the proprietors of this Company will be HELD at No. 13, Austinfriars, on Monday, 23d inst., at Two o'clock precisely. At this meeting one director will be elected, in the place of J. D. Powles, Esq., who goes out by rotation, but is eligible to be re-elected. By order of the Directors, L. R. JONES, Secretary.

13, Austinfriars, June 10, 1851.

WEST WHEAL JEWEL MINING ASSOCIATION.

Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders will be HELD at the Company's Offices, as under, on Wednesday, the 23d day of July inst., to confirm the Resolution unanimously passed at a Special General Meeting, held on the 3d inst., for the purpose of increasing the capital of the Association, in conformity with the provisions of the Deed of Settlement.

WM. NICHOLSON, Secy.

57, Old Broad-street, June 6, 1851.

EUROPEAN GAS COMPANY.—Notice is hereby given, that

the ANNUAL GENERAL MEETING of the proprietors will be HELD on Thursday, the 26th day of June inst., at the hour of Two o'clock precisely, at the office of the Company, 3, Moorgate-street, London, pursuant to the provisions of the Deed of Settlement. Two directors retire by rotation, but being eligible, will be proposed for re-election. By order of the board, HY. MEL. BACKLER, Secretary.

London, June 7, 1851.

FRANCIS'S MINING OFFICES, 7,

Original Correspondence.

THE NATURAL PHENOMENA OF MINERAL VEINS.

SIR.—The few general observations which I transmitted to your Journal of May 31st were simply based on certain obvious appearances of Nature, and addressed as such data, mainly for the purpose of directing the attention of your scientific correspondents to their elucidation, and not with any intention, at the present period, at least, of joining in an analytical controversy of the grand problems therein involved, as to the origin, &c., of mineral lodes; and I should not, therefore, have adverted now to them again, but that I think it is due to myself, as well as to one especially, of the two scientific gentlemen who, in your publication of the 7th inst., have been pleased to speak in complimentary terms of my communication, but who, nevertheless, have a little misrepresented me, that I offer a few words in explanation of the points referred to.

First, as regards Mr. Dumaresq's remark, that "he is gratified to find I am no longer of the igneous school!" I must beg to assure him that I never did entertain any predilection for the more exclusive study of those scorching regions, nor ever countenanced one of the mighty upturnings, dislocations, and rendings which many of our geological savans still love to ascribe to fathomless plutonic throes, but whose comparative shallowness, it would seem, is on the eve of being put to the test by the present galloping progress of the utilitarian; for I observe it reported in your Journal of last week that a project is actually on foot, with an eye to the reclamation of "fine lands," to put a Neptunian extinguisher on Mount Vesuvius!

Having so long been in the habit of observing things as they are in nature, I never could come to any other conclusion, with respect to the formation of lodes of fracture, than that they have been gradually opened by a lateral crystalline force; and, in this particular, I am glad to find that not only Mr. Dumaresq and myself, but our worthy friend the magnetocrystallographer of the mining world, do most palpably—to use an antiquated phrase—"make our flutes agree." But my vigilant friend would seem to accuse me of wishing to appropriate, or to tarnish, the sparkling fame of the author of the crystalline theory, and that, too, whilst he is absorbed in the pursuit of more "attractive metal." This is rather a grave charge; but, if I have done so, it was quite inadvertently, and in a very small way, little dreaming that the abstraction of a single crystal or two from such a Kooh-i-noor, would be any more likely to be missed than the robbing a pane of glass from the Crystal Palace would detract from its brilliancy, or lessen its utilitarian properties. However, Mr. Dumaresq has certainly rather mistaken my meaning in this particular. I was only ambitious to show that, in illustrating the crystalline theory by such striking examples as Mount Calvo presents, I was not aware that they had been similarly applied to the formation, &c., of mineral lodes, or that this crystalline action had been attributed to their spontaneous formation on the large scale in their destined sinuous courses, as intimated in my article.

A word or two now with my other critic, Mr. Coxworthy, whose cranium, like that of the redoubtable Knickerbocker, appears to be big with one idea—"Electrical Condition," and which, though it may not be too large for him to turn round, is certainly of such prominent dimensions as to grate and knock hard against every subject it may chance to come in contact with. This gentleman, begging the question, drags me into regions *frigorificæ*! so that, notwithstanding my distaste for extremes of every kind, I find myself on the present occasion made a natural reveller even amidst those of heat and cold.

Mr. Coxworthy, plunging into the mighty and mystical vista of his oxygen and glacial epoch, fills the lode "cracks," made, he says, by the "uplifting action," with "heated metal," drawn up by electrical attraction. He, at that far off period, completely envelopes Mount Calvo with his "oxygen atmosphere," exposes it to the glacial influence, and tells us that "those portions now constituting its rocks were then partially formed, and probably contained much moisture, which, by the operation of 'freezing,' would naturally shiver them into amplitude of pieces!" It, however, so happens, unfortunately for the stability of these very primitive views, that the translucent substance now filling up Mount Calvo's cracks, is not ice; I beg to assure him of this, but real indestructible crystalline matter, whose lateral action, in the process of formation, doubtless, as we see in the crystalline lodes, has rifted the original stony masses, and gradually produced the present brecciated phenomena.

Really, I cannot help thinking that it would have appeared infinitely more plausible if, in accounting for the existence of these fractures and their heterogeneous contents, Mr. Coxworthy had shivered Mount Calvo to atoms by the fall of some mighty avalanche of the vaulted glacial period, instantly filled up the cracks with metallic oxides—or more properly speaking, metals—by the attractive influences of its all-pervading oxygen atmosphere, and nicely touched up the work by a few astounding shocks from his great electric battery. For this surely would have been far more in consonance with his own general views, and could indeed, for the most part, be much more consistently employed in accounting for the puzzling phenomena of metallic veins.—JOSEPH HOLDSWORTH: June 10.

ON THE FORMATION OF METALLIFEROUS VEINS.

SIR.—If I acted upon the advice of my practical mining friends, I should let the letter of "Verax," of the 4th inst., pass unnoticed; and, unless he can bring something better than he has hitherto done to bear upon the question of the formation of metalliferous veins, I shall let him down as one of the defunct—*as*, indeed, being already beaten out of the field; and I put it to the mining community whether, in either of his letters which have recently appeared in the *Mining Journal*, they have found a single paragraph from which they could derive the slightest information upon that or any other subject. They seem to me, indeed, to be a jumble of such nonsense, and so muddled, that I begin to think the day is dispensed with. He commenced his letters up in the subject by stating, undisguisedly, that he took his ground upon facts deduced from Mr. Hopkins's theory of "Terrestrial Magnetism." I have since repeatedly pressed him in vain to publish those facts in the columns of your widely-circulated Journal for the edification and instruction of the mining world. But, no! he contents himself with bringing his friend forward as something nightly stupendous. "While ago," he was a legionist, inspecting and reporting upon mines by thousands; now he is an elephant with a jack-daw on his back—a weak and far-fetched simile. "Verax" would be in character if he classed himself with the daw in borrowed plume, and which plumage, by the way, is already sadly damaged.—"Othello's occupation's gone."

The charge that I pretend to superior mining erudition, and that I have pilfered my statements, falls harmless in the face of my declaration that I derive much of the information upon which I rely from my mining friends, of great practical knowledge; and if my mining phraseology is ambiguous, it is that which is in common use in the counties of Cornwall and Devon, to which I for the present confine my observations. If he does not understand them, although he presumes that I am deficient in the meaning of the words, I can have no hesitation in pronouncing him a riddle.

He leaves us in doubt whether his poetical effusion is intended for my friend "Argus" or myself. The former, with a slight exuberance of imagination, might be supposed to "gaze his pen," finding some difficulty in swallowing a whole of granite, though I do not perceive the elegance or sublimity of the stanzas; and had you no better correspondent than "Verax," I agree with him that there would be small cause for anticipating a prolonged contest relative to the question at issue.

"Verax" imputes to me a wilful contortion of facts; I shall as briefly as possible show that he cannot justify it. I commenced this discussion by intimating my intention—in the onset, at least—of confining my observations as strictly as possible to the two western counties (Devon and Cornwall), and to which I shall adhere; but with this knowledge, "Verax," not content with introducing the perforce into Staffordshire, North Wales, and Cumberland, takes me a tour on the continent, and then transports me to South America, placing me at length (decidedly against my will) on the ridges of the Andes, where, no doubt, "Verax" has accompanied his friend Hopkins as "constant as his shade." But I am not so ignorant of the geology and mineralogy of North Wales as he would have it appear. I have more than once been called to inspect and report upon mineral property in that district. At the foot of Cader Idris, and in Carnarvonshire, I condemned certain mining speculations. Can "Verax" say as much? They were afterwards worked; and under what circumstances, and with what result, I shall shortly acquaint the public.

The absurdity of the quibble of "Verax," respecting Wheal Vyrvaan is too apparent even to require the passing notice I shall give it. He said originally that the ore in that mine was interspersed like mica in the granite. I confuted that assertion, which he dares not dispute. He then takes another stand, and says "the strings of ore intersected the granite veins, and not the granite veins the ore." Does he call a course of rich ore from 2 to 3 ft. wide a string? That is truly "ambiguous mining phraseology." I repeat that the mutual intersections of copper ore, tin, and granite were innumerable within the channel of veins in which the ore was found, although I do not take it upon me to say which was the primitive intersection, if, indeed, their formation were not coeval. I also repeat my statement with reference to Wheal Music, and as I consider "Verax" has identified himself to the use of his signature, I shall not be content to receive anything upon his mere *ipse dixit*. It is perfectly true that there are innumerable minute veins of short length in the Carclaze Mine, and the double and single Rose, and other mines in the neighbourhood in which tin is disseminated, and this would be so, I am ready to admit, in the locality of most great metalliferous deposits; but I contend, and we "practicals" know, that this is no evidence of the original formation of metalliferous veins from cracks or fissures, from terrestrial magnetism, or infiltration from the surrounding strata, whether it be vertical or otherwise, or the rock, as "Verax" will have it, but the reverse. The carbons of St. Ives were found connected with a lode or leading vein or string, either large or small. The mine was resumed upon some ancient workings upon an east and west vein, re-opened by the late Sir Christopher Hawkins, Bart., for electrochemical purposes, and led to the dis-

covery of rich deposits of tin, which obtained the name of "Carbunas." No nodules of lead have come under my notice in this or the adjoining county. All discoveries of lead here, I believe, have been confined to veins, and chiefly north and south courses. I was quite aware that large masses of lead ore had been met with in the metalliferous formation of England, Wales, and other countries.

I have said the pleasure of knowing the present proprietor of the Virtuous Lady, but may mention that I obtained from my late deceased and intimate friend, Capt. John Williams, of Plymouth, for many years, and until recently, the manager, and nearly sole proprietor. I was never on the mine, but I can vouch for the truth of his statement, which, indeed, varies but little from the representations of "Verax" himself. The *quartz* was crystalline spar, quartz, and iron, of which I possess some rare specimens, presented to me by Capt. Williams; and "Verax" admits too that the metalliferous deposits were in close approximation to the sills, and that is what I meant to imply, "that the ore made under the bed of the river seems in no way to bear upon the question."

"Verax" means that he is one of the men of real practical knowledge, without intending it offensively, I hesitate not to ask if he has adduced a single instance to substantiate his theory, or to confute my facts—I leave it for the mining public to decide. I reiterate that the presence of native copper in the serpentine of the Lizard is a problem not soon to be solved by the geological theorist—no rational or decisive deduction can be made from it. My denial that it was derived from the surrounding rock would be held by the practical miner to be more consistent than those who come to an opposite conclusion. Vughs, containing ore, are very rarely met with in cross-cuts in this county, unless in close proximity with productive lodes. It is true that we "practicals" take credit for superior discernment in the nature, qualities, and properties of mineral veins over the simple theorist, and it is but natural that our position should be a pre-eminence in this respect. We judge from the indications present in the lode, our experience has taught us what gossans are: and how were the great copper lodes of this county for the most part discovered? Was it not from their appearance on the backs? Many of the most valuable having been laid open in by-gone times by the ancients in quest of tin. It was so with the Dolcoath run of mines, and thence on to Gwennap, with the South Rother, Wheal Crofty, Tresavean, and other old mines, and more recently the discoveries of the rich copper mines of Crinis, Pembroke, Wheal Buller, Penarthall, Levant, Botalack, North Pool, and, lastly, the Devon Great Consols, are all owing to the gossan on the backs, not one of them to the character or structure of the strata or rock in which they were imbedded. The course of ore of the Eastern Crinis Mine, as I intimated in a former letter, was discovered by the Porth streamers upwards of 100 years ago. But let it not be supposed that I advocate the belief that all the metalliferous veins should necessarily be found at or near the surface. On the contrary, many rich discoveries of ores have been made in this county where there has not been a vestige of a lode seen within many fathoms of the alluvial soil. I shall some day more particularly allude to such exceptions.

The class of veins of porphyry so abundant in this county, called elvan dykes, are strikingly similar to the metalliferous veins in their bearings or course and their declivity, which being ascertained, they can be as unerringly intersected at any given point. Their walls (with reference to the surrounding rock) are as well defined; they are invariably traversed by the mineral veins when they fall together, where the metalliferous deposits sometimes appear greatly augmented, and at other times all but annihilated, so that the working miner frequently exclaims "the elvan has squeezed the lode" or "knocked it to pieces." In the latter case, the lode passing from a course of ore 3, 4, or 6 ft. wide, perhaps to a mere string or trace, and that for a considerable extent in length and depth. What do the advocates of the theory of cracks and fissures say to this? By what means did those dykes, running parallel with, and so analogous to mineral veins in all but their contents, get charged with a different material? I wait to learn. A PRACTICAL MINER.

Canterbury, June 9.

ON MINING AND NATURE'S LAWS.—No. I.

SIR.—It is evident your correspondent, "Practical Miner," from the commencement of his letters had no intention of arriving at facts, or to carry on an amicable discussion, which is clear from his pointed remarks and distortion of facts. He appears to have spent much time in collecting food for his pen, but, unfortunately, he has waded a long way and found nothing. Aided as he is with his legion of practical friends, and volumes of theoretical writers, they certainly should have supplied him with arguments to confute me, or a ground-work to support his own theory. He styles himself "practical," but I really cannot bring his writing within its working bounds. He appears to hint that lodes, or strata, have neither law or guide—they are unaided or unsupported further than by kindly gossans. The majority of his letters are so vague, and so figured out with borrowed terms from theoretical works, as to be incomprehensible to the mining public, and unworthy a reply. I fully expected he was going to enter into a discussion as to what was and what was not Nature's laws, with a view of benefitting all classes, beginning with any part he thought proper, throwing it open to all practical men for their opinions, with a view to arrive at something conclusive. I think but few men will be found who believe that lodes or veins, and even strata, are not governed by beautiful laws; then the question arises as to whether they can be laid open as to aid and assist man in exploring the earth. I am inclined to say there cannot be a doubt on the subject, but let us turn our attention to the matter. To do so we need not run a race after Dr. McCulloch, to inform us of *oryctolichus schistus*, or *grauwacke*—only borrowed names, and foreign to three-fifths of the practical men of Cornwall. Stick to the granite and clay-slate formations, telling us if they are primary or secondary, and what stratum is found most metalliferous, and what Nature's laws we can establish by practice and precedents. Neither do we want him to rummage all the vague volumes of speculative theorists to enable him to furnish us with what the component parts of the earth's crust are formed of; every man who reads his (Practical's) letters is aware that he knows nothing of it, further than what he has collected from a few of their worthless works. By some misapprehension, he tells us that Mr. Wm. Phillips, the best author now extant on mineralogy, laboured under a mistake—why? because his writings are grounded on sound reasoning, and do not meet Practical's views in the same light as the mere wild goose theorists. For those we need not Practical's aid, we can get them all by purchase, but Nature's laws can only be obtained by watchfulness and long practice—if I could draw the veil from one it is worth a whole library of their volumes. I admit there is a wide field open for the able chemist, and he should be at all times in the practical man's rear, ever ready to aid him. Adam Smith very wisely recommended a division of labour; then I say, Practical, throw down your volumes, and come to the point, stick to Nature, and the chemist and theorist battle and tell us what the component parts of the earth's crust are, as his letter clearly shows he is vague in theory and averse to practice. Great truths, if developed, will not suit all parties, and particularly so in mining; there are often certain classes mixed up in it who make far more by taking up sets or grants, and getting up flaming reports, and selling them, than those who do that work them. It matters not what kind of a lode it is, or what strata it is in, they only want to flatter the cash. If any of Nature's laws could be laid open, so as to show the minded men that they must speculate only in certain districts with any chance of success, these men would be content to let Nature, and their own resources, and what a mighty figure they would cut then! Practical appears to be one of these men: he opposes everything, and produces nothing authenticated; he appears to quarrel with all who notice his style of argument; he attempts to sweep the whole round at one blow, not even omitting the granite hill or the regions of the deep, harrowing up old remarks of no moment. On these grounds, I challenge him as being one in league to favour those that strain at nothing to make money, or to carry out their own views; to confute which let him come before the public, and let them determine if he by his extra talents ever did anything to benefit himself or others. If so, in what way was it? by the profits of his working mines, or has he been in constant debt to the money? or may turn out that his extracted theoretical talent has never enabled him to pay his tailor's bill. At any rate, from his personal remarks and inclination to quarrel, we are entitled to have him before us; we should then see how he has progressed through life; if he is all right he need not fear the public, and I shall be amongst the first to congratulate him.

Turning to his remarks, I will briefly for once attempt to wade the whole round after him, commencing with his lineal line of productive lodes west of Redruth. A single glance at a map, with all the lodes laid down, will show that for miles west there is a continuous mass of intersected lodes and cross lodes embedded in clay-slate and granite, but, when in clay-slate, between two granite formations. These lodes are so intersected and heaved as to puzzle the most able miner to determine as to the continuation of the same lode; there is not a second piece of ground to be found like it in England, and even here they are found to make no ore for above half a mile together. It is only under those particular circumstances I have so often named that they made the ore in certain places—he, in a direct way, has not attempted to show to the contrary. Your readers, from his manner of writing, might be led to suppose that the lodes in this district are all productive to ore in a lineal direction, which is not the case; there has been as much money spent in mines in search of ore without finding it in a quarter of a mile from granite; but we have strong presumptive evidence from the declivity of the granite, as seen going in their directions, that they are not above that distance.

Let us next look at the mines in an north and south direction of this line of granite, and I shall be open to conviction if well authenticated proofs are produced that either tin or copper is found in these directions above two miles from the known granite base, sufficient to remunerate the adventurer. It has been attempted to be shown that St. George, Wheal Leisure, Wheal Town, Wheal Charlotte, and all the tin mines in Perran and St. Agnes are over the bounds. My friend, being an early bird, attempted to crow, and take the starting point from his own dunghill, before he saw the dawn of day; but it is now clearly shown, and supported by Capt. Bull (indisputable evidence), that a line of granite is running near and parallel to these mines. If no precedent can be produced of remunerating mines being found to any extent above that distance, I say here is one of Nature's laws emerging from the deep. I believe all the different rocks north and south, and the unpro-

ductive spaces in the east and west direction, that produce neither tin nor copper, to be barren and uncongenial rock, that is for tin and copper there is a something wanting that prevents chemical action from taking place, for want of which the lode or strata does not become mineralised, so as to produce either. On these grounds we may reasonably conclude that there is something in or about granite formations that acts on the lodes and adjoining rock, and causes a chemical action to take place, agreeable to these formations. By-the-by, I have omitted to notice Wheal Jubilee, near Padstow. Well, I can only say that I have known the mine for 30 years past: I purchased the engine there, I think, in the year 1823. I never saw or heard of either antimony or copper enough being returned from there to pay a quarter of the outlay. Legaic and Trevaline returned some copper, but it came very far short of meeting the expenses. A few tons of copper might be collected from most of the mines in the neighbourhood, but it is a lead, antimony, and iron district. A person might as well look for remunerating copper mines in the lime quarries of Bridestow, or in the iron lodes on Exmoor, as there. I holdly contend that, without a precedent established, remunerating copper mines have been found far beyond those bounds. It is gentlemen's own faults if they allow themselves to be drawn in and gulled of their cash by every one that chooses to make himself "practical." How often do they reiterate to me the saying of the old practicals, that no copper would be found east of Truro Bridge? What stronger proof do we want to convince us that the blind were then leading the blind, when they had the continuation of the granite, the line of lodes, and an abundance of tin in them on the backs to guide them? To conclude on the granite; I ask Practical what is become of his lineal line of lodes? After passing Dartmoor granite we hear no more of them. He having traced them to the far west, California, surely he should take his next trip east, and when he is prepared with his precedents I am ready to meet him on the spot. I next follow him on to the productive tin mines. Wrelicombe, June 9.

[A pressure on our space prevents us giving the entire of Mr. Ennor's paper in this week's Journal—the conclusion shall appear in our next.]

SIR.—To set friend "Argus" right, I request him to refer to his letter of 10th of May, where he quotes me as having a contest on the two elements with a Mr. Richardson, not ROWLANDSON, which caused me to make the remark, when, by some error in printing, ROWLANDSON was substituted for Richardson. I really thought "Argus" so fatigued, rummaging volumes to find matter for Practical, as to have caused a seizure, and was bedridden. I am, however, happy to see him able to come out again. One thing at a time, "Argus." I have no idea, though, what he means by requesting me to tell him what has become of the lead.—N. ENNOR.

THE POLES OF THE GALVANIC BATTERY—TERRESTRIAL AND ATMOSPHERIC MAGNETISM.

SIR.—From the period of the first construction and use of the galvanic battery to the present time, no theory has ever been proposed that throws the least light on the principles which govern its action; and whilst I think I shall have no difficulty in transposing the order that has hitherto been given to its "poles," were I to attempt to trace the cause of its operation, my endeavours would prove altogether unavailing. There are, however, in Nature certain well-defined principles, the application of which cannot fail in throwing much light upon the subject, intricate and perplexing as it is. I shall, therefore, in order to simplify the question, first give an outline of the views of the old school, and then test them on the principles that have lately been brought to light.

On reference to the chemical works of the day—for authorities are slow in confessing their error—it will be seen that oxygen, chlorine, &c., are classed as electro-negatives; whilst hydrogen, and other combustible bodies, are designated electro-positives—an order that has been assigned on the admitted principle that bodies in different electrical states attract each other, and repel each other when in the same condition; and oxygen passes to the zinc plate, hydrogen to the copper. The zinc being positive, the copper negative. Whether, therefore, I show an improper arrangement of the poles of the battery, or that oxygen, &c., are electro-positives, and hydrogen, &c., electro-negatives, will equally answer my purpose—it being problematical whether the electricity travels from the zinc plate of the battery to the other, or whether the action results from the operation of two bodies in different electrical conditions.

It would be out of character on the present occasion to re-discuss the principles which were so ably reviewed by Mr. Lee Stevens in his papers, published in the Journal of 1849; I shall, therefore, merely give a general outline of those that immediately bear upon the present question, assuming it will be allowed that general laws are universal in their application.

If the poles of a battery be connected with a solution of alum, or other salt, rapid crystallisation takes place; and if a crystallising body, such as ice and salt, in a freezing mixture, be connected by a fine copper wire with the solution, it produces a similar effect, the action being proportionate to the intensity of the cold produced; and if such solution be connected with the ground, or the wall of a building while it is raining, crystallisation also rapidly takes place, although such connection, influenced by the sun, retards crystallisation. Here, then, we have evidence that crystallisation is referable to electricity—that it is induced by an intense cold, which is produced by crystallisation, and that heat destroys crystallisation; clearly identifying electricity with cold, and not with heat—the reverse of all pre-existing notions; and the discoveries made by Mr. Crookes and Mr. Weekes, more than twenty years since, that the upper regions are highly electric, and that the electrical condition decreases with increase of temperature, or decreased distance from the earth, which discoveries are now admitted by Prof. Faraday, in his attempt to assign them to Messrs. Pelletier and Quelet, clearly show the existence of the same principle in the atmosphere. Sir John Herschel now admits that gravitation is not referable to attraction to the earth's centre, but must be sought in some electrical property; and bodies in similar electrical conditions repel each other; in dissimilar states attract each other.

Specific gravity, then, as applicable to gases, must clearly denote their natural electrical condition; and if this rule be applied to the gases of water, the electrical condition of hydrogen will be represented by 0.694, and that of oxygen by 1.111; and in a lecture delivered by Prof. Faraday on the 14th April, 1848, when my principles had long been made public, it was observed that "all gases were diamagnetic, but not all equally so. Oxygen is the least diamagnetic of the gases, and nitrogen one of the most diamagnetic. In common with solid bodies, the gases are rendered more diamagnetic by increase of temperature, and vice versa;" by which, I presume, the professor means that nitrogen and increase of temperature go together. Nitrogen, therefore, on this admission, is an electro-negative, and not an electro-positive, as stated in chemical works.

Acids never combine with metals, but with their oxides. During combustion the oxygen of the air combines with the carbon and hydrogen of the fuel, and the nitrogen passes off; and in the galvanic battery the oxygen of the water combines with the zinc, whilst the hydrogen goes to the copper. The zinc, therefore, which is undergoing combustion, must be negative, the copper positive; but as all bodies in high electrical conditions, such as these plates, are surrounded by an atmosphere of electricity, the zinc must indicate positive, and the copper negative, when taken out of the menstruum. These principles, I am aware, are not of present moment to the operative, but if correct, philosophically considered, cannot fail in ultimately leading to important results in their practical application to the arts.

If, then, bodies attract each other only when in different electrical states, what, may I ask, does Professor Faraday mean by the assertion in his lecture on "Atmospheric Magnetism," that oxygen was magnetic, because "it is attracted towards the poles of a magnet?" Does he mean to imply that the magnet is not magnetic, or is "diamagnetic?" because they obviously cannot be both in the same electrical condition; and I shall now endeavour to show, that if in the attempt to prove the professor means that nitrogen and increase of temperature go together, he has had so long under consideration, he had reversed his order of things, and had designated oxygen as diamagnetic, and nitrogen and heat magnetic, he would have been nearer the mark.

Electrical bodies are surrounded by an atmosphere of an opposite electrical condition to their own. The earth, which is generally allowed to be hot, and is known to be highly magnetic, is unquestionably surrounded by an atmosphere intensely cold, and electrical in a proportionate degree; and if round a bar of iron or steel an electrical atmosphere be thrown, as in the application of the galvanic battery, that bar, like the earth, is rendered highly magnetic, and must be an immediate opposite state to the atmosphere by which it is surrounded. When, therefore, iron and nickel are exposed to an intense heat in a furnace or volcano, they become magnetic, and are, consequently, repelled from the earth as nitrogen is; but when in the upper regions, from some cause, chemical action takes place (as in the formation of snow), when a great demand for electricity being created, they are thrown into a negative electrical state, and surrounded by a high electrical atmosphere, light and heat are evolved, to use an accepted term, and the matter becoming electric is repelled from the electric regions to the non-electric or magnetic earth.

In the above expression there may appear some ambiguity, but whilst electricity and cold clearly come under one category, and heat and magnetic condition may be classed under another, they possess within themselves peculiar properties in reference to matter, which no language can express, but of which an illustration may be afforded in the different rates at which metals are known to conduct "heat" and electricity. Let us not be too hasty in our conclusions; many months have not elapsed since Professor Airey, the Astronomer Royal, delivered the funeral oration (Prince Albert in the chair) to the terrestrial magnetic survey, conducted by Colonel Sabine, R.A., under the general direction of the British Association, but at the public expense; and his Royal Highness's present high character as the universal instructor of mankind, is turned to account to give sanction to another mass of absurdity which puts the fables of the heat doctrine completely into the shade. This is really too bad.

Canterbury-place, Lambeth-road, June 9. FRANKLIN COXWORTHY, Author of "Electrical Condition."

ON MINERAL VEINS.

SIR.—Being a native of Cornwall, and one who admires controversy, when the subject tends to enlighten the mind, or afford useful and scientific information, I have waited from week to week with anxious expectation that something worthy of notice would appear in the discussion between Mr. Ennor, "Argus," and "Practical Miner," on the above subject, which has so long figured in your valuable Journal. The argument now assumes a form so little to the purpose, that I fear it is taken up by parties as little acquainted with the laws of nature as myself. I can judge between an argument carried on legitimately or from pique. If "Argus" and his colleague are capable of discussing the subject with Mr. Ennor, why do so in ambush? Meet him like men, on equal terms. Though they are two to one, he is good metal, and will not flinch, I know from experience; and am inclined to think that "Argus" and his friend are as well informed, or they would not be so scrupulous in discovering the fortress from which they wait an opportunity of firing at their opponent, should he chance to lay himself open. If they have the spirit of men, I say, come out of cover, and do not assume a fictitious name. "Argus" some time since dwelt strongly on the merits of a name. He says, "What's in a name?" He appears well versed in the impropriety of now disclosing his own. At present neither name or argument affords the public an opportunity of judging if they are men of practice or not—I cannot say the same of Captain Ennor, I know him to be a practical and experienced man. Mr. Evan Hopkins's comment of the 14th of May substantiates my assertion—of which he, indeed, must have felt proud. I say, "Argus" and "Practical Miner" stand in your own shoes, like men

—your writings evidently emanate from the same source, or in connection; and do not make quotations from the writings of another, such as there might be some difficulty in substantiating. Can you not offer a problem for solution which has fallen under your own practical observation? such would afford parties interested an opportunity of judging if you were brought up underground or in the counting-house. All persons acquainted with Capt. Ennor must be aware from his extensive mining practice, straightforward and systematic manner of carrying out all undertakings committed to his charge, that "Argus" and his friend would have but little chance of victory in contesting with him in an argument such as this, provided they lay themselves fairly open. I do not believe there is a man in Cornwall who excels Capt. Ennor as a practical and experienced miner. The frank and open manner of his writings in your valuable Journal I believe to be admired even by "Argus" himself. On the interior structure or formation of our globe, and the laws of Nature acting thereon, I am not sufficiently acquainted to treat; but one thing is certain—Mr. Ennor possesses his share of practical knowledge as to the nature of lodes and the adjacent rock, or he has been most fortunate in everything of the kind he has undertaken, success having crowned the whole.

Liverpool, June 11.

A CORNISHMAN.

WHEEL TREMAR AND OKEL TOR AND THE MINING EXCHANGE.

Sir,—As a member of the Mining Exchange, I address to you with much reluctance a complaint on the subject of the above mines, in connection with the "rules" (so called) of that institution, which, when started, had for its first object the revival, "or weeding," as it has been called, the *Mining Journal* Share List. I accordingly made application to the committee to admit the Wheel Tremar and Okel Tor into the revised list, and was met by a reference to a certain rule which required that any mines, the merits of which were either unknown or doubtful, must undergo a certain scrutiny, such as furnishing lists of shareholders, costs incurred, &c., and an inspection by an agent to be chosen by the company, and paid by the applicant. To the former of these conditions I demurred, as invidious and inquisitorial; but to the latter I consented, and lodged with the secretary a letter agreeing to pay out of my own pocket two guineas for the inspection of each mine by an agent of the committee's own choice and appointment. I am now speaking of past times—say, two months ago, in which interval nothing has been done in the matter, and the two mines remain as "weeds," or offal, in the black list in your Journal at the present time.

Now, the committee of the Mining Exchange either know something of these mines or they know nothing. It may be something good or bad, or it may be nothing bad, and yet the mines are, if not condemned, at least neglected, but whether by the committee or the secretary it is not for me to say, the question not being a personal one. I now inform you and your readers (such as interest themselves in the matter) that the Wheel Tremar is a copper mine, in the parish of St. Cleer, near Liskard, and had its origin in the most influential parties in the Caradon district (Messrs. Kitto, Clymo, West, and others), who out of 1024 took amongst them 424 shares, with which list the mine was started, and the remaining 600 shares quickly taken, chiefly through my agency, which gives me, at any rate, an indirect interest in the question. It has gone to work, made two calls, and latterly a fine lode has been cut in Trethvery Mine, east of Tremar, but in the run of the same lode, which gives hopes that, independently of its own merits, it will prove a fair speculation, and not a "weed" to be trampled upon and destroyed.

The Okel Tor is rather a more serious affair, being offered to the public in 2048 shares, but yet at 10s. only deposit in the first instance. Parties of high respectability at Plymouth and Exeter have a large interest, and to my friends about 200 shares have been sold. A report by Mr. E. Hopkins is more than favourable, and the utmost encouragement to work the ground in given by a report of Mr. S. Secombe, of the Phoenix Mines, who being a "pick and gad man" and rather respectable in position, will not, perhaps, be objected to as an authority. But not content with these reports, when the means of strengthening or refuting them was at hand, I obtained another report from Captain James Opie, the present agent of Lamheroe Wheel Maria, which more than confirmed the previous favourable accounts, and concludes by stating that "he would recommend the speculation to his greatest friends on fair terms."

Capt. Opie may be unknown to the committee, but I beg to add that he is an agent in whose judgment, experience, and honesty I place the utmost reliance. Should it be urged that the list of shareholders of Okel Tor is yet incomplete, I would beg to answer that it is likely to be so whilst the mine remains a proscribed item in the *Mining Journal*, for it is not to be supposed that either the favourite list or the weeds of the committee are disregarded by the public; on the contrary, a Mining Exchange was required for the increased attractions of mining shares, and such an institution having got at least "a name," it is at once an instrument of good or evil. I now beg, Mr. Editor, to request that you will take these "Wheels" out of your list, and I trust others interested in having their mines placed in a fair position before the public will be stimulated to follow this example. Such a course will be a test of their claims to the consideration and favour of the mining public, since it will not be difficult to bring them forward in some other way, and, perhaps, without the assistance of the Mining Exchange.

King-street, Cheapside, June 13.

JAMES CROFTS,

Mining Broker.

NORTH WHEEL BULLER (GREAT SOUTH TOLGUS).

Sir,—My letter of the 17th April was a statement of facts—"nothing extenuate, or ought set down in malice," as the "Adventurer" would fully imply. Finding their shares quoted at 14l. each in your Journal, and offering at about half that in the market (where, of course, they could not expect to find buyers at the modest premium of 200 per cent., and so little to show for it), I wrote the few lines in question, for "the sole purpose of recommending others to do as I would myself—go upon the spot, or write some disinterested and upright mining agent to inspect these El Dorados, before parting with their cash. If all is fair, and as represented, this need not be objected to."

I have waited quietly two months to learn whether the long-promised 50 tons from the "good lodes" were forthcoming or not; and the result of 15 months' effectual scraping away of every little arch, support, or string left by the old party, and the subsequent explorations and "digging," yields the enormous sampling of 40 tons of low quality ore, after an outlay of 6000l., and the concern trumpeted forth to the public at 16,800l.—more than 12 times the real value of the stock in trade and machinery of every description.

The scheme has got somehow among the select in the Mining Exchange List, but not one scrip or share has "travelled through that region of bliss." I may be able in a postscript to say what the 40 tons are worth, but certainly not enough to pay interest on the outlay.

My object is and was to caution parties generally (not in this scheme alone), on all occasions, "to look before they leap"—to examine before they buy; they will find it too late after they have done so. But if they were to make a general rule to ask the advice of a practical miner (the resident banker or postmaster, in many instances, would procure one on reference to them), they would find whether the under-take in had "a local habitation and a name," and whether it was trash, trash, trash, to be avoided by those who wish for

London, June 13.

FAIR PLAY.

P.S.—The 40 tons will not sell for more than 3l. 1s. per ton—say, 122l.

HINTS TO SHAREHOLDERS—No. V.—THE MINE SHARE-LIST.

Sir,—The premium or discount prices of the present mine share-list, should not be depended upon as a test, or even guide of the relative value of shares in new or maiden mines, as they are too often the representatives of jobbery, caprice, or spleen; and are but rarely even proximate indicators of the merits or bond fide character of a new mine.

The establishment of a Mine Exchange has already checked the nefarious intentions of the unprincipled, and if properly regulated will be of great public service. An indolent public is too prone to follow such broad assumptions and declarations as ignorance and impudent chicanery may dare to dovetail into the prospectuses of new and totally unproved mines, which are backed with the sugary gossam of some Spargite mine captain, are foisted by new or inexperienced mine shareholders into an unhealthy and feverish market price. After a little while the temporary excitement passes away, and then it is perceived that the mines, being wholly unproved, require much more than the whole of the contemplated capital before they can be brought even into that preliminary stage of working which will enable the reflective and cautious examiner to hazard a declaration of their ultimate capability and intrinsic worth, upon the application of the proper working capital. Under these circumstances, many of those who purchased their shares at the recommendation of the new mine shareholders—the very large majority of whom are just about as fit to manoeuvre a ship of war as they are to discretely guide the capitalist in his mine investments—are sorely disappointed. These dispirit the other shareholders, destroy their confidence in the ultimate capabilities of the mine, and cause its suspension, or, perhaps, premature abandonment, with a total loss of the purchase and working capital.

It is but few of our mines, such as Wheel Reeth, the Caradons, Trelawny, Trehan, Mary Ann, West Buller, and some others that have been profitable in their maiden workings, and these were not the costly and glittering Wheel Tonkins—surprising all experience with the "five or six feet lode at only four fathoms deep, containing black, grey, and rich yellow copper throughout."—"One foot wide is very rich." Thus says John Spargo. Fudge, "Five or six feet lode, with black, grey, and rich yellow copper throughout." Fudge, I say. Will this "throughout" give half the contents of the five or six feet? A third, a sixth, a tenth, or a twentieth of rich copper ore? Another report talks of "large rocks of rich copper ore 15 to 18 cwt." Will these rocks of rich ore, of 18 cwt., produce 12, 9, or even 6 cwt. of rich copper ore? These reports are understood by the initiated, but not by those who are expected to take shares, and be misled. It is by these disingenuous reports that too many of the mine capitalists get the public, dishearten the capitalist, shake confidence, and throw mistrust and disgrace upon mining and miners.

For upwards of 30 years I have been in the habit of seeing copper, tin, and lead lodes in various counties, as well as under various circumstances, and have

more than a strong suspicion that the reports of Messrs. Spargo, Seymour, and Rippon should be very considerably toned down. It is possible that proof may bring Wheel Tonkin into great future market value, but it is not now in a state to justify such flourishing reports.

The prospectus of one new adventure says, "it is anticipated that if silver could be extracted from this marquisite some years ago, so as to give a profit to the adventurers, it will now be rendered a source of considerable gain." Doubtless, if it could. For this if they modestly ask 4000l., while neither the if nor the how chance is worth a shilling. As to Mr. Trenberth's "hundreds of tons of copper ore being raised and sold from both the new and old workings," who raised them, and where and how were they sold? WATCHMAN.

TINCROFT MINING COMPANY.

Sir,—I am one of those shareholders who neither make myself conspicuous at public meetings, by rising up half-a-dozen times to grumble at every little trifle that carries with it an objectionable tendency or point, nor do I complain by long letters in your Journal; but when I hear very general murmuring out of doors, and cannot get an explanation within, I do really think it is time to stir about, and try to get at the facts. At our last meeting of this concern, held on the 30th April, there was great complaint made against the management in Cornwall, for sending up such brilliant reports to town as to induce the directors to declare a dividend when it appears they ought not to have done so. They were much blamed for it, without having first the required amount available in their hands for such a purpose, for in the course of payment it appears they actually had to borrow money. This shows there was "something rotten in the state of Denmark." As we were found to be in debt, and losing many thousands a year, in place of gaining, by reason of some of the shafts being diagonal instead of perpendicular, and funds were necessary for the liquidation of all this, a committee of five shareholders was appointed, with full powers to inquire into the past conduct of the management generally, and report as to the present actual state of the concern, "above and below." This is to inquire of you whether the said committee have, for the last 40 days, been in the wilderness, for we have no notice that they have signified their report is ready? No meeting has as yet been convened; and yet out of doors, I again repeat, the "noisy hum of voices" proclaim this, that, and t'other as the ultimatum of the committee's labours, which throw great reflections on the purser, probably groundless. One thing is certain, it has had a withering influence over the price of shares in the market; for although quoted in the Exchange 5 to 5½, they were done last week at 4½.

I understand the underground department has been thoroughly examined and reported on by Capt. Thomas Richards, of Hayle. The sooner the committee supply the shareholders with a copy of this the better: it is an important document, and surely might be left at the office for perusal, especially if they are likely to remain in the wilderness for 40 days longer.

Lombard-street, June 9.

AMOR FRATERNUS.

MINING DIVIDENDS AND CALLS.

Sir,—I see "Argus" has been at work in your Journal of last week, offering his opinion rather prematurely (or at all events before it was asked), as to the probability of success in 41 mines now making calls; and, although I am not interested in either of them, I venture to predict that in many his opinion will prove to be very erroneous; and I think it amounts almost to an absurdity for any man to write in the off-handed way that "Argus" has thought fit to do about 41 mines, and is calculated to do more harm than good to mining generally. However, as I suppose what "Argus" would or would not recommend will have but little weight with the shareholders of the above mines, I leave the matter in the hands of those holding an interest in them to answer.

London, June 11.

FAIR PLAY.

THE NATIONAL BRAZILIAN MINING ASSOCIATION.

Sir,—In perusing your valuable Journal of the 12th Oct., 1850, I observed annexed to a report on the Cuiaba Mine the following statement:—"For the last 10 years, the different mining captains at Cuiaba made every effort to find the lode at Hitchens's level, or at that depth. A new captain (Samuel Bowden) was sent from Cornwall last spring, who found the lode after 12 days' search."

From being fully acquainted with the working of the Cuiaba Mine for a longer period than that mentioned, I do not hesitate to say that the statement is entirely devoid of truth. Hitchens's level was driven 18 years ago 10 fms. on the lode, at which point a course of clay-slate was intersected, which crossed the lode at nearly right angles, and "heaved" it several fathoms to the south. The level was suspended at that point, and the entire operations of the mine was carried on on the eastern side of the course of clay-slate from that time until the year 1848, at which period all the lode, east of the clay-slate from the surface, to as deep as the deepest level in the mine, became exhausted. The lode is also worked away in the eastern part of the mine 5 fms. below the deepest level. The water was drained by hand-pumps; but ultimately it became too unproductive to pay the expense, and was, consequently, abandoned. There was then no alternative but to seek for a new mine on the western side of the course of clay-slate. A level was, therefore, commenced from Reid's shaft 10 fms. below the surface, was driven through the clay-slate, and the lode intersected on the western side of it; here the level was driven some fms. on the lode, and a very extensive stopes, called Le Page's, was opened from the bottom of this level; but the lode throughout the stopes was found to be very poor indeed. A second level, 10 fathoms deeper, was then opened from Reid's shaft, called Hartley's, and driven through the course of clay-slate, and the lode intersected; but the lode was also found to be very poor in this level. A rise was then put up from the last-named level to the stopes above, through which the stone broken from the stopes was brought away. Hitchens's level, which is 33 fms. from the surface, was then resumed, and was driven through the clay-slate; and the lode was intersected in this level also, but now found to be very poor, producing only 27 grs. of gold per ton. With the exception of these three levels (neither of which was driven in error), and the passes for the transit of the stone, no kind of exploration or search was made for the lode in question from the time Hitchens's was suspended. The circumstances were communicated to the directors on the 27th of May, 1849, and the following is an extract of their letter in answer:—

26, Throgmorton street, London, July 31, 1849.
DEAR SIR,—We fully confirm our letter to you of the 4th instant, and have since received your reports from Cuiaba to the 27th May. The opening of Le Page's stopes, to the west of the kilns, and the discovery of the lode at Hartley's and Hitchens's levels—followed, as it no doubt will be, by finding it in the shallow adit—appears to us matters of the greatest importance, as regards the future working of the Cuiaba Mine; and although the floors you have commenced upon are very poor, still you will find many others, probably, of a better quality; and with the facilities you will possess of breaking 3000 or 3000 tons per month, we look forward with the hope of the Cuiaba Mine realising a produce far exceeding its moderate expenses, &c.

(Signed) EDWARD OXFORD. WILLIAM HAMILTON.
Surely, such statements should not have been published through the *Mining Journal*—the directors knowing that their letters of correspondence must be in the possession of their agents. The managers of companies too often adopt the system of abusing their old servants, when their undertakings do not progress so satisfactorily as they had anticipated. A LOOKER-ON.
South America, March 26.

INDUSTRIAL RESOURCES OF IRELAND—GALWAY.

Sir,—It is needless here to dwell on its preponderant geographical position, its immense yet almost idle water-power, its geological riches, &c. I have been kindly favoured with a variety of mineral ores from different places about Galway—Lemonville, Brownville, Arran Isles, Salt Hill—also from the opposite shores in the county Clare, which I believe to be a continuation of the same metallic strata, principally composed of sulphures of lead, copper, iron, and silver. I investigated their chemical constitution and application to the arts and manufactures. It is really surprising that Galway, so bountifully supplied by Nature, and with all the elements necessary to constitute one of the first manufacturing depots in the British empire, has so long remained in the shade unnoticed. The richness of its lead ores equals, indeed surpasses, many of those so extensively worked in Durham, Cumberland, and Yorkshire. The sample of lead ore which I examined was galena, technically called sulphure of lead; it contains in 100 parts, lead 86.6 and sulphur 13.4, with about 12 ozs. of pure silver per ton of ore. The iron is generally in the pyritic state, or, as it is called, bi-sulphure of iron, and is admirably suited for the manufacture of oil of vitriol, being a compound of 28 parts of iron and 32 of sulphur; and in 100 parts, iron 46.7 and sulphur 53.3. The copper ore I found to be as a sulphure present in the iron ore, but not in large quantities; however, that is derivable from it is evident. The reduction of the above ores at home would prove a source of immense wealth and profit to those who would embark therein, besides the unlimited amount of remunerative employment it would give to our starving people, both labourers and artisans. The lead ore, as worked on the estate of George F. O'Flaherty, Esq., I have been informed, is sent out of this country at 11l. per ton, to be reduced, refined, and returned back to the market at from 20l. to 22l. per ton, or as litharge, 24l.; or converted to many other forms more lucrative to the manufacturer, besides the amount of employment it gives, which would lessen our poor rates, and ultimately leave almost no such rate in requisition. The sulphur contained in the above sulphureted metals would be most advantageously applied to the formation of sulphuric acid or oil of vitriol, a substance so extensively used, and so essential both to the manufacturing and pharmaceutical chemist; of all the acids, the sulphuric is the most extensively used in the arts, and is, in fact, the primary agent for obtaining almost all the other acids by disengaging them from saline or other combinations; in this way the nitric, muriatic, or hydrochloric, tartaric, acetic, and many other acids are procured; it is employed in the direct formation of alum, of the sulphates of copper, zinc, potash, and soda. In that of sulphuric ether, and of sugar, by the saccharification of starch, &c., it serves also for opening the pores of skins in tanning, for determining the nature of several salts by the acid characters that are disengaged, &c. It is largely used in the manufacture of bleaching powder, or chloride of lime and soda ash, ingredients so extensively used in the home and foreign market. Soda ash is used extensively in

the manufacture of soap, glass, paper, &c., and largely exported to America; in fact, it is one of the staple trades of England in the American market, and which could be most profitably made in Galway, which will ere long become the pivot on which the trade and commerce of the eastern and western world will turn.

Galway, June 6. Late Chemist of the Apothecaries' Hall of Ireland Chemical Works.

WEST WHEEL FRIENDSHIP.

Sir,—As West Wheel Friendship stands second in the list of 18 mines, out of 41, in which calls were noticed in the Journal of 31st May, if it is intended by "Argus," of Truro, to be suspiciously regarded, the committee beg to say that the mine is managed by a local unpaid committee, and the only paid agent being the captain, we court, as we ever have done, the fullest investigation into our prospects, proceedings, and management, and will feel great pleasure in showing the mine to any agent or spectator at all times, and even to exhibit it in all its details to the 100 eyes of our friend "Argus" himself.

We can hardly collect from the letter of "Argus" what he means at or condemns. The expenditure of 5000l., and perseverance in our operations for five years, we think ought to exempt us at least from all charges or suspicions of anything but fair and straightforward dealing in legitimate mining. The committee will be obliged to the Editor by his insertion of the foregoing in this week's Journal.—J. NEWTON, Purser: Truro, June 12.

BIRAM'S PATENT ANEMOMETER, FOR MEASURING THE CURRENT OF AIR IN MINES, &c.

THIS INSTRUMENT IS CONSTRUCTED so that the ACTION OF A CURRENT OF AIR ON EVERY PART OF THE VANES may tend to PRODUCE A REVOLUTION OF THE WHEEL in the same time—the number of feet lineal which have passed through the wheel being shown by indices which revolve on the dial-plate underneath the handle.

Further particulars, with references, may be had on application to the patentee.

BIRAM'S MINER'S LAMP, COMBINING LIGHT, SAFETY, AND ECONOMY.

The PATENTEE respectfully solicits the attention and patronage of COAL PROPRIETORS to the above LAMP—the LIGHT from which will be found FOUR-FOLD that of the Davy Lamp—the SAFETY SUPERIOR, and the COST IN OIL not ONE-HALF the expense of candles, even when burning free from draft; whilst, from the light being shielded from the wind, a current of air, inadmissible where naked candles are used, may be passed through the galleries of a mine without inconvenience.

Wentworth, near Rotherham. BEN. BIRAM.

IMPROVED LIFTING JACKS, IMPROVED RATCHET JACK, HALEY'S PATENT LIFTING JACK.

MANUFACTURED BY W. AND J. GALLOWAY, PATENT RIVET WORKS, MANCHESTER.

The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

IMPORTANT SAVING IN MINING OPERATIONS.

GUTTA PERCHA HOGAR PIPES, AND SPEAKING TUBES IN MINES.

The GUTTA PERCHA COMPANY have been favoured with the following important Letter from EBENEZER ROGERS, Esq., C.E., F.G.S., Abercarn Fach, near Newport, Monmouthshire:—

March 31.—In reply to your inquiry as to the use of gutta percha as a material for the Hogar pipe used for taking up water in sinking shafts for mines, I have pleasure in stating that my application of it for this purpose is perfectly successful. The ordinary slide pipe is entirely superseded by the gutta percha Hogar pipe, and it will be evident to every person experienced in mining, that the flexibility and lightness of the latter admits of sumping in any part of the pit, without the great amount of labour attendant on that operation with iron pipes.

The freedom from liability to accidents in blasting, and the great facility with which repairs can be effected in case of damage, cannot fail to recommend your material to the notice of every person engaged in mining operations. The gutta percha Hogar pipe, which we have now in work at the Abercarn Collieries, is about 20 feet in length, and after very severe trials in sinking through hard rocks, where the expensive slide and stock would be always liable to breakage, the gutta percha is little worn for wear. I am also glad to state that the 400 feet of speaking tube for communicating between the top and bottom of the shaft answers admirably, and is a great economical time.

EBENEZER ROGERS.

GUTTA PERCHA PUMP BUCKETS.

COPY OF LETTER FROM MR. C. THOMAS, DOLCOATH MINE, CAMBRIDGE. Cambridge, Jan. 27.—Three gutta percha 12-inch pit boxes, or pump buckets, drawing water 7½-foot stroke, have been used and worn out in this mine, and I beg to inform you that they have lasted on an average six weeks each, giving double the average wear of leather boxes, or buckets. This alone is important in saving time and cost of changing boxes, especially in long lifts, and gutta percha requiring no nails for gearing, the working pieces will doubtless last much longer. On the whole, we much prefer gutta percha to leather for boxes.

CHARLES THOMAS.

SYPHONS FOR MINES.

FROM MR. A. CROSFIELD, TY MAUR COLLIERY, NEAR PONTY-FRIDD. The gutta percha pipe sent me for the purpose of employing it as a syphon for drawing water from a damp heading at these works, answers admirably; and, although the pipe is so small, it is surprising the quantity of water passing through it. I consider that gutta percha piping may be applied in mines and collieries to very valuable purposes, and is especially adapted to be used on the syphon principle, where local circumstances will admit of such application.

MINERS' CAPS.

Cornish Miner's Cap. Northumberland Miner's Cap.

The GUTTA PERCHA CAPS are not only

Waterproof, but afford

peculiar protection to

the wearer from the

Falling of Loose Stones,

&c. &c. &c.

EVERY VARIETY OF GUTTA PERCHA ARTICLES SUITABLE FOR MINES—viz.

Hogar Pipes, Pump Buckets, Clinks, Speaking Tubes, Engine Packings, Syphons, Miners' Caps, Waterproof Sole, &c.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

THE PROCESS OF ICE BEING MADE IN ONE MINUTE,

without the aid of Ice, has elicited from Her Majesty, at the Grand Exhibition, her most gracious approval and unbounded astonishment, by

MASTERS & CO.'S PATENT FREEZING MACHINES,

which are now brought to the highest state of perfection; as also are the various MACHINES enumerated below:—

MASTERS'S PATENT FREEZING MACHINE, for making Dessert Ice and Rock

Ice from Spring Water, and for Cooling Wine, &c., at a trifling cost.

BUTTER COOLER and FREEZER. ICE PERCOLATING FUNNEL.

ENAMELLED WINE REFRIGERATOR, for Icing Champagne, &c.

MASTERS'S PATENT SHERRY COBBLER FREEZING and COOLING JUG, for producing pure Ice from Spring Water in five minutes, at the cost of 2d., in the hottest climate.—Price 30s. and upwards.

COOLING DECANTER, or CLEAT JUG.—COOLING and FREEZING FILTERER.

COOLING CUP, for Surgical purposes, &c. &c. &c.

THE PUBLIC is respectfully INVITED to SEE THE PROCESS OF MAKING ICE, by the above machines, without the aid of Ice—the same process as exhibited by Mr. Masters to Her Majesty, at his Refreshment Rooms, at the Crystal Palace, where 100 quarts of

Desert Ice, and large cylinders of Rock Ice are made daily—at Messrs. MASTERS & CO.'S principal DEPOT, 309, REGENT STREET, adjoining the Polytechnic Institution, London.

MASTERS & CO.'S PATENT SODA WATER and AERATING APPARATUS, for charging Water, Wine, Ale, and other Liquids, with pure Carbonic Acid Gas. By this

apparatus the purest Soda Water may be obtained at the cost of less than one farthing per glass; and so delicate is the operation, that it may be used in the dining-room. By the addition of the Jaconelle Pear Syrup, manufactured by Messrs. Masters & Co., the most delicious effervescent beverage is produced. Price 30s., and upwards.

N.B.—Syrups from all Fruits, for flavouring Soda Water, making Lemonade, Ices, &c.

Also, MASTERS & CO.'S PATENT ROTARY KNIFE-CLEANING MACHINE, manufactured in six different sizes, to clean and brilliantly polish Six to Twelve Knives in One Minute. Warranted to last many years, and not get out of order.—Price 35s. to 6l. 6s.

MASTERS & CO., PATENTEES, No. 309, REGENT-STREET, Adjoining the Polytechnic Institution, London.

LITERARY NOTICES.

On Marine Engine Construction and Classification. By CHARLES ATHERTON, Chief Engineer of H. M. Dockyard, Devonport. London: John Weale, High Holborn.

In this little work the author has endeavoured to call the attention of the steam-shipping interest to the necessity of a proper classification of steam-engines to the efficiency of steam fleet service, instead of depending for excellence of construction and performance on rival manufacturers. He has endeavoured to ascertain from the various statistical returns which have been published, what peculiarities of engines have conduced to the most effective results, and has devised an arrangement embracing these peculiarities. The object of the writer appears to be to show the evils attendant on steam-engines on board a fleet of steam-vessels being dissimilar, and perhaps no two of them on exactly the same principle; he has, therefore, constructed a pair of 25-horse power engines on the way-beam principle, the advantages of which, he thinks, have not yet been superseded by any other form of engine, which are now open for inspection in the Great Exhibition. Mr. Atherton shows that this proposed construction is equally applicable to the paddle-wheel and the screw, and proposes a definite system to illustrate the practicability of his views, and points out specifically some of the practical benefits which would attend any good system of classification. He states that not less than 1000 different modes of construction of engines have been adopted in the marine service of Britain, of which 180 are in the Royal Navy alone, and that every engine hereafter to be made will, unless thought under some system of classification, follow the same unregulated course; while the fact is remarkable that up to the present time no one plan of engine of modern date has been found to possess any acknowledged degree of working superiority over these made 20 years since. The author takes an impartial view of the merits of paddle-wheels and screws, tubular and fine boilers, and the best means of driving the screw, whether by direct action or by multiplying gear, and shows that his object is less to hold up any one particular plan, than that one general plan should come into operation in each separate company's fleet, and in the Royal Navy, thus admitting of one controlling inspection and superintendence.

The Railways of the United Kingdom Statistically Considered. Supplemental Part. By HARRY SCRIVENER, late secretary to the Liverpool Stock Exchange, and author of "A History of the Iron Trade." London: Smith, Elder, and Co., Cornhill.

In the Mining Journal of June 9th, 1849, we noticed, in a very favourable manner, Mr. Scrivener's excellent work on the Railways of the United Kingdom up to the period of publication. We have now before us a supplemental volume, conveying full and further intelligence of their progress to the present year—all subsequent agreements, creation of shares, calls on shares, dividends, the position of capital and revenue accounts, a statement of the guarantee and preference shares, with the substance of the Railway Commissioners' Reports from 1849 and 1850. This supplemental volume continues the information on all railway matters with the same perspicuity and completeness which marked the previous volume; and, to all interested in the progress of the railway system, the entire work will prove of the utmost utility for reference, presenting, as it does, a complete epitome of the advance of every line, and the management by every company from its commencement to the termination of the year 1850.

CHURCH OF ENGLAND FIRE AND LIFE ASSURANCE.

The annual meeting of the proprietors of this company was held yesterday, at their establishment in Lothbury.

Major JAMES OLIPHANT (East India director) in the chair. Mr. EMMENS, the manager, read a highly gratifying report of the transactions of the company during the past year, from which it appeared that the new business of 1850 in the life department had, notwithstanding the formation of so many new offices, exceeded by a large amount the assurances opened in previous years, whilst the claims paid were nearly met by the new premiums of the year, and were considerably exceeded by the receipts from lapsed policies. In the fire department the same favourable result appeared, the losses being under 30 per cent. of the premiums. The dividend of 6 per cent. per annum would be payable on and after the 14th July next.

The report was adopted unanimously. The retiring directors, Major Oliphant, the Rev. H. T. Tucker, W. Ambrose Shaw, Esq., and E. Heathcote Smith, Esq., were re-elected unanimously. Messrs. Cahill and Scott were elected auditors. The usual complimentary vote of thanks was passed to the chairman and directors, and to Mr. Emmens, the manager, when the meeting separated.

THE DEVON HAYTOR GRANITE QUARRIES.—We notice by a prospectus just issued that these quarries, producing without exception the most superior stone, both in tenacity, hardness, and durability in the kingdom, are about to be again worked. The cause of these not having been recently worked is well known to persons connected with the stone trade: a late alderman of London, the owner of considerable granite quarries in the neighbourhood of Dartmoor, which returned him a large annual income, obtained a lease of the Haytor Quarries also from the Duke of Somerset, at the almost nominal rental of 200l. per annum, upon condition, and with the philanthropic expectation on the part of the Duke, that the poor of the neighbourhood would be constantly employed. On obtaining possession, however, the lessee closed the quarries to increase the supply from his other quarries, and they remained unworked until the expiration of the lease. The present company have got a 21 years' lease, at the same very moderate rental: 6500l. has recently been expended in re-opening the quarries, re-erecting workshops and other buildings, constructing trucks, waggons, cranes, tools, &c. It is now proposed to increase this capital to 20,000l. in shares of 1l. each, no further call to be made; and it is anticipated, the custom of the trade enabling the capital to be returned three times a year, that a profit of 25 per cent. will be realised. There are 10 of the largest quarries in England under the lease, situated about eight miles from Newton Abbot, Devon; and, from experiments made, it has been found that the granite will bear a greater crushing pressure than any other in the kingdom. Penryn gave way under 3-45 tons; Peterhead blue, 4-86; ditto red, 4-88; Aberdeen blue, 4-64; Dartmoor, 6-48; Haytor, 6-19. Also on the granite tramroad, in the Commercial-road, Mr. James Walker, the engineer, found, after seventeen months' trial, that the Aberdeen lost per foot superficial, by abrasion 3-0 lbs.; Dartmoor, 2-77 lbs.; but the Haytor only 1-915 lbs. per foot. This granite may be seen at advantage in Fishmonger's Hall, London Bridge, Goldsmiths' Hall, New Hall of Christ's Hospital, and the great arch of Tothill-fields Prison, where there is one stone weighing 38 tons.

MARVELOUS QUARTZ MINING—£80,000 IN TWO DAYS.—We have been favoured with the following extract of a letter, dated San Francisco, April 15, from Mr. J. Kellogg, to his brother in this city:—"Quartz mining is beginning to attract a great deal of attention. Yesterday news was brought to this city, by express, of one of the most astounding discoveries that California has disclosed to the world: 10 men in two days blasted out of the solid rock \$355,000 worth of gold. It is not published in the steamer's papers, as it only came last night, but it can be relied on as the plain and simple truth. One of the owners here, who owned three-sevenths of the vein, was living on the charity of friends when the express arrived informing him that there were \$158,000 subject to his order, on Carson's Creek, near the Touloume. His name is Morgan. I have over 200 shares in a mine that we would not exchange for the Carson's Creek vein. Perhaps we calculate too sanguinely, but you may be prepared to hear of more astounding intelligence than has hitherto reached you. We shall begin to realise about August 1st."—*Hartford (U.S.) Courant.*

Accounts from Adelaide to the 6th March have been received. According to the official returns the revenue receipts for the quarter ending the 31st of December, amounted to 56,028l., and the expenditure to 49,747l. The import duties had produced 26,745l., and the land sales, 16,139l. Mining adventure was being pursued on an extensive scale. From 25 to 30 undertakings were in the market, and the shares were regularly quoted. The leading prices included Burra, 200; Princess Royal, 12 to 15; and Mount Remarkable, 75. On freehold property the rate of interest ruled from 12½ to 15 per cent., and discounts were quoted from 20 to 32 per cent.

Advices from Perth, Western Australia, describe the lead mines in the district as being likely fully to realise the anticipations held out at the time of their discovery. **OPENING OF THE VULCAN FORGE, DEPTFORD.**—The Vulcan Forge, situated at the east end of Deptford, and erected by Mr. Arthur Ray, was on Monday last set in motion for the first time. There are two engines connected with the forge, one of 10-horse power, which is employed in driving the fan-blast, and the other of 20-horse power, which is attached to a forge hammer. The engines were erected by Mr. George Clark, and found to be perfect in their various motions. Several iron bars were forged for the use of the manufactory in the presence of a number of scientific and practical gentlemen belonging to the neighbourhood. Every variety of ironwork connected with the various departments of shipbuilding is intended to be manufactured.—*Sunderland Herald.*

ROYAL GARDENS, VAUXHALL.—On Monday next, Mr. Bell will ascend from these gardens with his "new patent locomotive balloon"—the boisterous state of the weather last week having prevented the intrepid aeronaut from testing the power of his machine. In addition to this, the equestrian *fetes* will take place, comprising the names of Madlle. Lejars, Madlle. Pauline Cuzent, Madlle. Palmyra Annato, and Hernandez, together with splendid fireworks by Darby, and the magnificent illuminations. The Algerine Family will display their native attractions; and the gipsy tent will be open to the wanderer. On Wednesday, the 18th, a grand Horticulture Fête will be given, on which occasion 225l. will be awarded in prizes. On Thursday, a grand Bal Costume and Masquerade will be given, as nearly approaching as possible to that given by her Majesty, the 13th inst., at Buckingham Palace. During the last week, notwithstanding the inclement weather, the gardens have received more than a fair average of visitors.

Douglas journals announce the discovery of a vein of lead ore near Peel.

DREADFUL WOUNDS IN A LEG; BUT SOUNDLY CURED BY HOLLOWAY'S OINTMENT AND PILLS.—Mr. Henry Gray, typographer, residing at No. 6, Temple-lane, City, states that he suffered for a considerable time the most excruciating pains from two deep wounds in his leg, occasioned by an accident which he unfortunately met with; and although he tried various hot and cold remedies, yet all his pains continued to increase. He was then recommended by a friend to use some of Holloway's ointment and pills, which he did, and in six hours he was greatly relieved, and in about eight days the wounds were soundly healed.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—The ground in Field's engine-shaft, sinking under the 30l. is much fairer than for the last 2 fms. sinking. The lode in the winze sinking under the level east of this shaft is from 3 to 4 ft. wide, nearly all solid copper ore, worth 50l. per fm. The lode in the 30l. east of engine-shaft, is 9 ft. wide, the driving for the past week has been on the south part: now the men are put to take down the north part of the lode, which here is worth for copper ore from 40l. to 50l. per fm. The lode in No. 3 winze, sinking under the 70, is 5 ft. wide, very good for copper ore, worth from 70l. to 80l. per fm. We have commenced sinking Wylly's shaft under the 70. No other change of importance to notice since the last report.

BARGALLY.—We have 7 fms. of level to drive to the shaft; the ground for the last 4 has been rather hard, but is now improved, and I hope in a short time to have the level opened to the shaft; as it is being driven in the country rock, we have not made much discovery of lead ore since we crossed the lode, where it is very profitable ground. Our object for driving the level in the country rock is to secure a good level by the side of the lode, which will enable us to keep the water from getting down into the mine.

BODMIN WHEAL MARY CONSOLS.—The ends driving east and west in the 20 fm. level, on No. 6 lode, are producing good stones of fine yellow ore, but no regular leader—a very kindly lode; the ground is improved on No. 3; in the same level the lode is 24 ft. wide; west on this lode, at present in poor. In the winze sinking below adit on No. 1, the lode is large, and course about 3 fms. to hole to the back of the 10 fathom level. We are clearing the old level by six men, and raising ore there. The ground in the shaft continues very favourable.

BORINGTON PARK.—Murchison's shaft is down about 4½ fms. below the adit level; I intend to continue sinking this shaft with the whim with all possible dispatch, until the engine is in course of working; the end is in about 12 fms. from Murchison's shaft, and we are driving on the south part of the lode, the part we are carrying is from 2 to 3 feet wide, saving work. We have commenced dressing, but are not getting on so well as I could wish, in consequence of the dressing part not being acquainted with the progress of the mine, and the men, which run of ore ground we hope to reach in the course of a month or six weeks. Twenty-five tons of ore have been shipped, and there are about 13 tons now on the mine.

BRYN-ARIAN.—The 20 fm. level, driving west from the winze, is in a large ore lode, yielding about a ton of ore to the fm., the same level, driving east from the winze, on some branches split off from the lode, is yielding 10 cwt. of ore per fm.; we are also driving in this level on some branches, which are producing at present about 8 cwt. of ore per fm. The lode in the 10 fm. level, west of the engine-shaft, is large and spotted with ore, but not of any value at present; the stopes in the back of this level will yield 8 cwt. of ore per fm. Hallett's shaft is now down to the 20, and we shall commence driving each way from it on the course of the lode, about Friday, the 13th inst.; the ground here is favourable for driving. We hope shortly to get through the cross measure of ground that now disorders the lode, as there are large workings gone down in the bottom of the 10 fm. level, made by the old men, which run of ore ground we hope to reach in the course of a month or six weeks. Twenty-five tons of ore have been shipped, and there are about 13 tons now on the mine.

BRYN-ARIAN.—In handing my report to the meeting, I beg to observe that the profits are not so large as anticipated, in consequence of the expense of dressing power in January and February; but, from this time, our returns will be about 60 cwt. monthly, our cost about 300l. The 15 fm. level, going eastward (15 fms. above the adit level), has gone through about 14 fms. of ore ground the last three months, yielding on the average 2½ tons per fm.; this shoot of ore has been worked back, west of the end, by Gill and ourselves, for more than 60 fms. in length, the backs of which are nearly all to take away. The engine-shaft will be down in the middle of this shoot of ore 10 fms. below the adit level in five months; at present, only 3 fms. from surface, it will yield 1 ton of ore per fathom, proving the ore makes to grass. The 15 fm. level, eastward will now produce 2 tons of ore per fm., the lode here made a sudden turn to the east, which obscured it from our view for a short time; but in cross-cutting about 2 ft. we again intersected it, and found it very much better than before, and it has since continued so, being now about 2½ ft. wide, 1½ ft. of which is good work for lead and copper. The east and west lode is producing good work in lead and copper in the 75 fm. level end west. Up to the date of my last report we had not seen any lead in this end since our commencing to drive on it, but had always been getting some very rich copper, and though it is now 4 ft. wide, 1½ ft. of which yields good work, principally lead, yet I am fully persuaded we shall shortly find this to be wholly a copper lode of great value—the indications are exceedingly good, and the samples of ore very fine. In the south end, 75 fm. level, I find no great change since my last notice of it; the lode is about 2 ft. wide, and producing some good work in lead. We have now holed this end to the winze sunk from the 65 fm. level, by which means it is well ventilated, and in about another week we shall be in a position to set tributaries to work in the backs. The lode in the 65 fm. level end south shows very promising indeed, and is producing a greater quantity of lead than when I last reported on it. We have commenced sinking a winze in the bottom of the 48 fm. level south, about 10 fms. ahead of the last-mentioned end, in which we have a good lode, principally lead. The middle shaft is sunk 3 fms. 3 ft. below the level, from whence we intend to drive north and south. The appearances of the tributary pitches have varied but very trifling of late.

CARADON WOOD.—The engine-shaft is progressing, and the ground favourable. We have commenced cutting the underground level, and we shall be able to get the water out of the winze, without troubling our neighbours. We have gone down the river further than was first contemplated, so that we can gain several feet more fall than we expected when we wrote you last. We are preparing for smiths' and carpenters' shops, so we shall be ready for building next week.

CARTHEW CONSOLS.—The engine-shaft is now sunk about 7 fms. below the 85 fm. level, and we hope, with a continuation of that success with which we have hitherto been favoured in this sink, to be down to the 95 fm. level in the whole of this month. From the 85 fm. level, down to within 2 or 3 ft. from the bottom of the shaft, the lode has been quite in a disordered state, by means of the No. 2 slide, or a portion thereof, having intervened in contact with it; but now this slide, it appears, has entirely left it, and its appearances below the slide are of a very pleasing character: it is fast increasing in width, and is composed of a very well-looking soft white spar, a little muddled, and fine stones of copper. Since my last report we have met with a very good improvement in the water ore 85 fm. level north; the lode here made a sudden turn to the east, which obscured it from our view for a short time; but in cross-cutting about 2 ft. we again intersected it, and found it very much better than before, and it has since continued so, being now about 2½ ft. wide, 1½ ft. of which is good work for lead and copper. The east and west lode is producing good work in lead and copper in the 75 fm. level end west. Up to the date of my last report we had not seen any lead in this end since our commencing to drive on it, but had always been getting some very rich copper, and though it is now 4 ft. wide, 1½ ft. of which yields good work, principally lead, yet I am fully persuaded we shall shortly find this to be wholly a copper lode of great value—the indications are exceedingly good, and the samples of ore very fine. In the south end, 75 fm. level, I find no great change since my last notice of it; the lode is about 2 ft. wide, and producing some good work in lead. We have now holed this end to the winze sunk from the 65 fm. level, by which means it is well ventilated, and in about another week we shall be in a position to set tributaries to work in the backs. The lode in the 65 fm. level end south shows very promising indeed, and is producing a greater quantity of lead than when I last reported on it. We have commenced sinking a winze in the bottom of the 48 fm. level south, about 10 fms. ahead of the last-mentioned end, in which we have a good lode, principally lead. The middle shaft is sunk 3 fms. 3 ft. below the level, from whence we intend to drive north and south. The appearances of the tributary pitches have varied but very trifling of late.

CYFANNEDD FAWR.—We have stopped the western drivings for the present, and have put the men to stop the ore in No. 2 driving. The lode is widening in the sink of No. 1, and is producing some fine stones of lead ore. We shall continue on this for the month.

DEVON AND COURTENAY.—The 60 end west is worth 2 tons of copper ore per fm., and, judging from the present appearance of the lode, I believe it will still continue to improve; the lode is about 1 ft. wide. The winze in the 40 fm. level will run out about 17 tons per fm.; the bottom of the winze is about 9 fms. above the 60 fm. level, and about the same distance between the present end. We have holed Cartew's shaft by a borer hole to the cross-cut driven under it from the adit level. The foundry people have promised to get all the castings ready for the wheel, bobs, &c., in about three weeks from this time.

DOLFRWYNOG.—There is no change to notice in the driving to cut the Gaudr Goch lode—the ground continues very favourable. The six men employed in the Fonog level will be discontinued for this month, and employed clearing out the deads from the carbon level, from which a large body of copper ore was raised by the former adventurers.

EAST BALLESWIDEN.—This mine is in the granite eastward of the Saneered elevation; it contains five or more lodes discovered, and amongst them a principal champion lode, underlaying 7 ft. per fm. south-west, of a large size, and of a character very congenial for tin, and in an easily workable granite, much stained. This lode is crossed by the others at various angles, and from the intersections already discovered, considerable quantities of tin ore have been excavated; I think from the late progress of the mine, and reports of Capt. Cartew since I inspected it, we may confidently anticipate that, as these intersections are approached, in extending the levels in depth, valuable results may be expected to accrue.

EAST BIRCH TOR.—The lode in our shallow level driving is from 8 to 10 in. wide, and it is producing some very excellent work for tin. The stopes also in the 12 fathom level present a very promising appearance; and we have the usual number of hands employed on the mine.

EAST BORINGDON.—Annie's shaft is down about 12 fms.; the ground is quite altered since my last report, being for the last 6 ft. in a good blue kyllas, the same as Boringdon Park. I hope to get the whim completed next week, and intend sinking 20 fms. before I cross out to the lode, which, in my opinion, will prove productive.

EAST CROWDALE.—The 47 east has been driven 8 fathoms from shaft—the lode at present is improving; the lode of ore is about 16 in. wide, good saving work, worth 24l. per fm.; the same level, on north lode, has been driven 18 fathoms west, lode poor. The 58 cross-cut has only reached the lode; nothing done on its course, therefore we think it desirable to drive east and west, and also at the 47 above with all possible speed, seeing our engine cost will not be less than 40l. per month. We also think that the north lode is worthy of further trial, judging from its character, and the great amount of available work done in sinking the shaft and driving cross cuts; the south, or main lode, is poor. Unless the north lode is worked with spirit for a few months—say, by 18 men in the drive end—it would be better for the shareholders to abandon it at once; it would cost about 140l. monthly. As six fms. we have still tin in the 50, but not rich; the lode in the shaft is large, producing a little tin. Our sampling will be on the 19th inst.

EAST WHEAL GEORGE.—The lode in the 23 fm. level east is producing occasionally good stones of ore; the lode in the same level west is composed of capel, muddle, and spots of ore, a very kindly lode. I have no doubt but that we shall soon meet with a greater improvement in this lode, as we are approaching the bunch of ore driven through in the level above. The stopes in the back of this level, which is on the branch to the north of the lode, are yielding about 6½ cwt. of ore per fm.; it being of excellent quality. The lode in the 12 fm. level, east of shaft, is 4 ft. wide, the north part

of which is producing good stones of ore; the lode in the winze sinking below this level, west of shaft, is 3 ft. wide, worth 12l. per fm. On the 5th inst. we sampled May ores, 23 tons 3 cwt., of good quality.

EAST WHEAL RASHLEIGH.—The shaftmen are progressing favourably, sinking a fathom per week at 24 l. 10s. per fm. The north and south lode is disordered in the bottom by the intersection of an east and west lode crossing through the shaft, which we have not yet cut through; there are spots of lead and copper in it. We are continuing the western level—ground somewhat changed since my last. Altogether, the mine may be said to be looking well.

EAST WHEAL RUSSELL.—Hitchins's shaft is made good 17 fms. 3 ft. below the adit level; we should have sunk more, but for the engine requiring some repairs. We must now prepare the work in the shaft for the new engine; we are getting on well with the building of the new engine-house, &c., and shall be glad when able to sink with greater speed than of late, which the new engine will enable us to do. The lode is looking just the same as stated in my last week's report, showing strong indications of a great and good mine, but we must get under the gossan before it will be realised.

ESCAIR LEE.—The caunter lode in the deep adit, east of Morgan's winze, is from 4 to 5 feet wide, with small branches of quartz and ore. The lode in the winze under the 12 east is 2 feet wide, principally gossan, with a strong mixture of ore. The stopes on an average will yield 8 or 10 cwt. of ore per fm. We are cutting down the engine-shaft with all speed, and expect in a week to be down to the deep adit. On Wednesday we put on board the *Sincerity* 20 tons of ore.

EXMOOR WHEAL ELIZA.—Since the last meeting, the north lode in the 36 fm. level has been reached and cut through; it is about 8 ft. big, is split up into several branches, and running through a beautiful channel of ground, composed chiefly of carbonate of lime, spar, peach, a little muddle, and fine spots of yellow copper; it is now being driven on east to reach the place where the branches are coming together, where a good discovery may be expected, as the character of the lode is very kindly for copper. A very promising lode, about 4 ft. big, between the middle and north lodes, has also been driven on, and from which, on the eastern side of the cross-cut, some fine work for copper has been taken. To the west of the cross-cut a slide crosses the lode, under which there is a branch of red oxide of copper going down, about 5 ft. wide. The middle lode in the 36 fm. level is also improving for copper going west, the lode at present is about 2 ft. big, but appears to be opening very fast. On the whole, the appearance of this mine are very encouraging indeed.

GEORGE AND CHARLOTTE.—In the shallow level east, on the south lode, a cross-course has come in, and here it about 4 ft. to the south; we hope to again cut into it in the course of next week, when we may fairly calculate on finding it as productive as when cut off. The lode in the end driving east, on the north lode, in this level, is from 4 to 5 ft. wide, composed principally of peach, muddle, quartz, &c. The shodding on the top of the hill has been continued, and three large lodes have been met with, containing strong-looking gossan and rich copper ore, being within a distance of 40 fms. from our end, which, perhaps, would be the proper place for a new shaft. The rise in the back of the deep adit level, at William and Mary, side of the hill, is now about 5 fms.; the lode is 3 ft. wide, producing good stones of ore. The clearing and making of the whim-shaft has been attended with success, having reached the old bottom, and am glad to say the lode has a most kindly appearance, yielding full 1½ ton of ore per fm.

GREAT SHEBA CONSOLS.—In again inspecting this great champion lode, so far as driven west on, in the deep adit, I am much pleased with its appearance, and I believe from what can be seen of its character that it will prove to be a very valuable one when laid open to a reasonable depth. I consider that this shaft is driven west as far as is necessary or advisable, the character of the lode being fully shown, and no discovery of importance can be expected at so shallow a depth, and should recommend you to discontinue any further outlay in this level. An engine-shaft is now in course of sinking, and is down about 20 fms. below surface; there remains about 12 fms. more to sink to intersect the lode. At this point, when reached, I would recommend that a level be driven east and west on the course of the lode, to lay open and prove its value, and at the same time to continue the sinking of the shaft. The stratum of kyllas now in the level is improving, and as the shaft is getting nearer the lode it is more congenial for mineral deposits. Vatcher's lode is large, and was intersected by cutting open a lobby to take off the water from the new wheel-pit. I had not an opportunity of examining anything more than the stuff broken from the lode in the lobby, the appearance of which is very encouraging, and fully warrants the outlay of the necessary capital to prove its value in depth; an engine-shaft is being sunk to intersect this lode at about 13 fms. below the surface, eight of which are already sunk, and from the favourable nature of the strata the lode will be reached in about two months from this time, when a more correct opinion of its ultimate value can be formed.

GREAT SOUTH WHEAL ALFRED.—Since commencing operations we have cleared and secured the shaft on the Alfred Consols lode, and costened to cut the south lodes. In the shaft the lode is large and promising, composed of fine gossan and stones of ore of good quality. We have discovered two other lodes of very promising appearance; in one we have stones of grey copper ore.

GREAT WHEAL BADDERN.—The 51 fathom bottom level, east of Kenworthy's shaft, ground not quite so fair—lode 12 in. wide, producing rich stones of lead ore; the stopes in the back of this level, east and west of Tweedale's are producing well. The 40, east of Buckley's shaft, is considerably improved, both for driving and lead—we have reason to think that this shaft will have further improvement at this point; the stopes in this level are producing fairly. The 30 end, east of Burgan's shaft, is not rich for lead at present, and ground rather hard; the stopes west are improving. The shaft is completed to the 30, and we purpose cutting pits at the 30 and 20. The 20, east of Burgan's, continues good, ground unusually fair—stopes satisfactory. We are again putting up a rise in the back of this level, and only 4 or 5 fms. behind the end, to communicate with the adit, and the lode is opening well. The tribute pitch in the adit level, on new lode, is proving well; the other pitch on the old lode has also improved. The tribute pitch, on Kenworthy's, 30 fm. level, is rather poor. The surface operations are going forward steadily and satisfactorily. The mine throughout presents a very cheering aspect. I trust the ticketing for the two parcels of lead, sold on Saturday last, has been satisfactory—computed 39 tons.

HENNOCK.—I have put the shaftmen to cut pit in the 30 fm. level, and the winze men to drive north to hole to the winze in the same level. On opening the ground in the 30, there is a great change in its character for the better. We have now a very white kyllas to the east of the lode, with branches of soft spar and lead, &c., which I have not seen in the upper levels. On the eastern lode in the 30 fm. level they have driven 6 ft., but are not yet through; it is a very kindly lode, and we are again putting up a rise in the back of this level, and only 4 or 5 fms. behind the end, to communicate with the adit, and the lode is opening well. The tribute pitch in the adit level, on new lode, is proving well; the other pitch on the old lode has also improved. The tribute pitch, on Kenworthy's, 30 fm. level, is rather poor. The surface operations are going forward steadily and satisfactorily. The mine throughout presents a very cheering aspect. I trust the ticketing for the two parcels of lead, sold on Saturday last, has been satisfactory—computed 39 tons.

HOLMBUSH.—The lode in the western stopes, in the back of the 132, is 18 in. wide, producing 2 tons of ore per fm.; the eastern stopes will produce 3 tons of ore per fm. The lode in the 132 south is 3 ft. wide, composed of quartz, prill, and stones of lead; the same remarks will apply to the lode in the rise in the back of this level. We shall push on these places as fast as possible, to drain and lay open the 120 fm. level. The lode in the 132, west of diagonal shaft, on the north part, is 15 in. wide, producing 1½ tons of ore per fm. The rise over the end is 12 in. wide, composed of muddle, spar, and stones of ore. Hitchins's engine-shaft, below the 132, is just as it was when I last reported on it. The lode in the 120, below the 132, is 18 in. wide, producing 2 tons of ore per fm. The lode in the 120, east of the cross-course, on the Flapjack lode, is idle, for the want of men to take it, so many little mines having lately been set to work that there is a scarcity of men, at least for the present; we shall resume the driving of it the first opportunity. The lode in the 120 north is 24 ft. wide, producing stones of lead. The Flapjack lode in the 110 east is 3 ft. wide, composed of muddle, soft spar, and prill, with stones of ore, opening tribute ground. The 100 east is 20 in. wide, producing 1½ ton of ore per fm.; the 100, west of Wall's, is 4 ft. wide, producing 2 tons of ore per fm. and a great quantity of muddle. The ground in Wall's engine-shaft, sinking below the 100, is improved, 8 ft. 6 in. having been sunk last month, and is now set at 35l. per fm.

KESWICK.—Since my last report, the workings at Brandley have been continued to the salt level, which has been widened, and preparations made for sinking the salt pump, to hole the 20 fm. level north as soon as the water is out; the ore is worth 10 cwt. per fm. We have two tribute pitches in this level; the lode in the 20 fm. level, east of the lode, which we cut (with the water that drove out), is worth about 10 cwt. By making communication between the 20 fm. and salt level, we shall open out a line of ore ground for 20 fathoms in width, and 40 fathoms long. The salt level is driven about 100 fms. north of the 20 fm. level, and from the backs of this level large quantities of ore have been raised, but nothing of consequence under the level, the water being too strong for hand-pumping. In the 20 fm. north are two stopes, worth 5 and 10 cwt. The 20 fm. south is a most promising lode, with small strings of ore. We have everything ready for sinking the engine-shaft, which we had commenced when I last reported on it. We have sunk about 8 fms. below the 20 fm. level, and have driven a pipe of cross-cut, and we are now driving the 20 fm. level, and was left standing, worth upwards of 30 cwt. per fm. The engine works very well, and we are now below the 10 fm. level. I cannot too strongly urge you to push this mine with all possible speed; by so doing it will be the sooner in a profitable condition, with the same expense in pumping, &c. The bottom level, at old Brandley, has been stopped for the present, but we have a tribute pitch in the old workings. The engine-shaft at Thornthwaite is down between 7 and 8 fms., and as soon as we have sunk the 10 fms. we shall drive to cut the pipes of ore passed over in the 27 fm. level, where we have one worth 30 cwt. to 2 tons, per fm. in the back of the pipe of 5 fms. long, and from 8 cwt. to 2 tons in the second pipe of 5 fms. long. In the 17 fm. back we have two tribute pitches. At Barf Mine we have a tribute pitch.

KIRKCUDBRIGHTSHIRE.—The 74, west of Stewart's, is 4 feet wide, yielding 6 cwt. of lead per fm. The 74, east of Gillip's, is 3 ft. wide, good stones of ore; the 74, west of ditto, large, with good stones of ore all through. The rise in the back of the 62 west is 3 ft. wide, yielding 1 ton to the fm. The 50 west is 3 ft. wide, yielding 1 ton per fathom, and very wet. The 40 west is 3 ft. wide, with stones of ore and Jack throughout. We shall be ready to ship a cargo of ore by Tuesday, the 10th inst.

LAMHEROEE WHEAL MARIA.—We have six men employed stopping east of Addis's shaft 5 fms. below the surface. I examined the stopes in the 11 fm. level, and find the lode will produce about 10 per cent. marketable tin. The lode is 16 ft. wide, and we have six men employed making preparations to put in the surface rods and the pitwork in Jessie's shaft. No alteration has taken place in the 60 cross-cut, north of engine-shaft.

LLWYNMALES.—We shall finish securing and timbering the ground on the north side of the stopes west from western winze this evening (June 6). In the 24 fm. level west the lode looks better than last reported, also the 14 west; we are to-day breaking large solid lumps of ore in this level; at present the lode is worth 60l. per fm. Our men have been too much engaged timbering and securing the ground in the stopes this week to admit our altering the pump work, and I now mean to defer doing so for six or seven weeks more, as I want all the men we have for stopping down the ore west of western winze. The pump work that requires altering is the putting the two present lift of pumps into one lift, so as to admit six men to cut a place for the eastern in the bottom of the 8 fm. level, in the spot which our present top lift occupied, as the top of the eastern may be erected with the bottom of the 8 fathom level. The altering of the pump will not hinder our working in any other part of the mine but the 24 fm. level west, and here but for a few hours. After the two lifts are put into one lift of pumps, we can at any time cut out ground for eastern, and afterwards put in the plunger, without hindering any part of the mine, as the engine may be working whilst we are fixing the plunger and eastern.

LYDFORD CONSOLS.—At Wheal Mary, the lode in the gossan shaft has produced some good stones of copper ore, a very kindly lode. At Wheal Adventure, the lode in the adit end, south of engine-shaft, has been disordered, but is now more regular, somewhat larger, and composed of muddle and kyllas—a kindly lode.

MERLILYN.—The lode in the 26 fathom level, east from the whim-shaft, is worth 52l. per fm.; the west ditto is worth 31l. per fathom. The 36, west from Boundary winze, is worth 30l. per fm. The 16, west from the whim-shaft, is worth 31l. per fathom. The 15 yard level, west of the footway shaft, is improved, worth 12l. per fm. The engine-shaft has been set to 12 men, at 120l., to sink 10 fathoms, which I hope will be cut through in three months. The 30 tons of ore sold fetched 11l. 17s. 6d. per ton.

NORTH WHEEL ROBERT.—Since the last quarterly meeting, we have driven the adit level 28 fms., the lode is 3 ft. wide, composed of spar, quartz, and a very fine black ore, with a beautiful white clay-slate of a very conglutinate character—large streams of water issuing from the end. There is now 97 fms. to communicate with Murchison's engine-shaft, which, according to the present rate, would take 15 months; the said shaft is sunk 10 fms. I should strongly recommend that it be sunk 35 fms. before a cross-cut be driven, which would be in the adit level; this would take eight months, when we could drive east to meet the adit level; and, as soon as we have holed, we shall be able to discharge our engine water at that level, and have 30 fathoms of pumps to commence sinking under the lode. From various indications, I am of opinion that, when we cross-cut the lode, we shall be in possession of a rich lode of copper ore. We have taken out the wheel-pit 110 fms. solid measure, built the walls of the adit pit, and fixed the axle of the water-wheel in its bearings; and we have cut 3 1/2 fms. of water-course from the open cutting of the engine-shaft to the wheel—75 fms. of which is arched over, and filled in to make good the land. We have taken out the bob-pit, 30 fms. 4 ft. 7 in., solid measure, and the masons are now engaged in building the walls; and all the other works are progressing, and hope to go to work by the end of June. We have also cut a pit in the adit level 4 fms. 3 ft., solid measure, put in 30 ft. air-pipes, and built a pump-house, &c.

PENNANT AND CRAIGVEN.—I am glad that I am able to inform you the lode in No. 1 adit has greatly improved this week; it is now 12 in. wide in the back, and about 16 inches in the bottom, making a good strong mixture of ore all through. There are also many strings of ore (feeders) making from the hillside into the lode. I fully expect soon to have a thorough good lode near the junction. I have also set four miners this week (June 7) in the adit, but have only let 1 fm., as I expect the ground to alter for the better near the lode.

PENTIRE GLAZE AND PENTIRE UNITED.—Within these last two days the lode in the 22 fm. level north has improved to about 1 ton of lead per fm. We are now almost disposed to pronounce this to be the same lode, which we cut into in the 10, in which we have driven about 8 fms. on an average course of lead ore worth 81 tons per fm.; we shall prove this by sinking a winze. The 23, above the deep adit driving south, still holds good, worth 3 tons of lead ore per fm., and is approaching a point opposite to the large deposit worked out by former adventurers. Other tutwork, as recommended, is set, from which, without any tribute pitch, we hope to raise from 20 to 30 tons of copper ore this month. The biddings for our last parcel, computed 44 tons of mixed ores—viz., Tamar Smelting Company, 87, 13s. 6d. per ton; Newton, Keates, and Co., 81, 13s.; Meredith, 87, 10s. 6d.; Locke, Blackett, and Co., 82, 8s. 6d. Our next parcel will be all copper, consequently a much higher price will be realised for it.

PENZANCE CONSOLS.—In our stope west of Carthew's shaft, in the 24 fm. level, we have a good lode of rich-quality stuff; in the stope east of ditto the lode is large, with good stones of tin; in the stope in the back of the lode is 3 ft. wide, with tin throughout, 4 in. of which is rich-quality stuff. In the end going east, on the new lode, the lode is 15 in. wide, 8 in. of it good quality stuff. In the end going west, on same lode, the lode is 3 ft. wide, and is much improved since last week. In the end going west, on the engine lode, the lode is large, but not rich at present.

PRÆD CONSOLS.—We are pushing on the work as quick as possible; 5 fms. have been driven in the north adit since I wrote last. In the shaft near the cross lode we have been obliged to cut a pit, and to cut a great deal of ground around it, in order to make it a good working shaft in future. The lease will be completed now very shortly, including the piece of ground to the east, which will make our set as large as any in the neighbourhood.

SOUTH OF SCOTLAND MINES.—The south shaft is nearly completed down to the top level, and we will begin immediately to sink 13 fms. deeper. The ore in the back of the 7 fathom level is much about the same as when I last wrote to you. We hope to be in a position to employ some more miners to work on ore in the course of a few days. Our dressing-floors will be ready in a few days, when we shall make a start to dress up the pile of ore on hand.

SOUTH WHEEL TRELAUNY.—The 60 is still driving with six men, ground not so favourable, lode split, with horses of killas and capels and munde between, and water issuing out of the end. I fancy the branches will form a junction again. In other respects, things are in regular course of working.

TREBELL CONSOLS.—Since my last the lode has improved in quality. I have not yet tried the tinstuff, to ascertain what quantity of tin there is in 100 sacks. We broke some on the 30th May, in the bottom of the end, that was more rich for tin than what we formerly raised. We shall not cut through the lode, as we are endeavouring to get to the bottom of the gossan for ventilation, and to cut off the rilling, when the stuff will be near the place for stamping. The mine is looking better than ever it did.

TRELAUNY.—Trelawny shaft is sunk 12 fms. 4 ft. 6 in. below the 92 fm. level, ground still favourable. In the 92 and north the lode is 3 ft. wide, and worth 81 per fm. In the south end, at this level, the lode is also 3 ft. wide, and worth 81 per fm. In the 82 and north the lode is 3 ft. wide, and worth 202 per fm. We find the 72 and is not quite home to our boundary, and we are driving to cut Parent lode. The 64 cross-cut is 2 ft. wide, and worth 81 per fm. At the north mine, in the 78 and north of Trehan, the lode is 3 ft. wide, and worth 71 per fm. In the 68 and north, ditto, the lode is 2 ft. wide, and worth 71 per fm. Smith's shaft is now sunk 14 fms. 3 ft. below the 55, and the ground very good; there has not been so much sunk this week as usual, in consequence of having cut the slide, the men being engaged putting in timber to secure it. In the 55 and, north of ditto, the lode is 1 1/2 ft. wide, and worth 61 per fm. The stope is without alteration. On Tuesday last we shipped the parcel of lead ores sold Messrs. Locke, Blackett, and Co., 24th May; it weighed 99 tons 10 cwt.

TRELEIGH CONSOLS.—Christie Lode: in the 100 fm. level, west of Garden's, lode 20 in. wide, with stones of ore. In the 90 west lode is 20 in. wide, worth 201 per fm. In the 80 west lode is 18 in. wide, with stones of ore; in the 80, east of Christie, there has been no lode taken down this week.—Parent Lode: In the 64 cross-cut, north of Parent engine-shaft, we are driving to cut Parent lode. The 64 cross-cut is 2 ft. wide, and worth 81 per fm. Middle Lode: in the 40, east of cross cut, the lode is 1 ft. wide, with good stones of ore. At Burgess shaft, below the adit, there has been no lode taken down this week.

TRELOWETH.—The engine-shaft is sunk in the past week about 6 ft. below the 45, the ground a little harder, being in killas. The cross cut south is driven 7 feet. The cross-cut in the 32 driven 3 ft., lode very hard, composed of capels and spar, with stones of copper ore; I am expecting more mineral on the south part. Harrison's shaft is sunk below the old men's workings 5 ft., lode 10 ft. big, and spotted with copper ore, but not to value. The winze sinking below the 12 is large, lode producing good stones of copper ore.—Since the foregoing, we are into the lode at the 32 1/4 ft., and no south wall as yet can be seen; at the extreme point some excellent stones of yellow ore have been taken. In the winze under the 12, the south part of the lode is most promising for copper ore.

TRETHEVY.—The ground in our engine-shaft is decidedly altered for the better, and I believe that we shall soon cut through the hard ground; the south-west corner of the shaft is a very good one; the eastern end is through the cross-course, and we hope to see the lode to the east in a day or so; the air is bad in the end, the men cannot get on as fast as could be wished. No improvement in the western end.

TYWARDREATH.—The shaft has been put down to the rock; the killas is soft and broken, and another set of castings will have to be put in, which will make 10 fms. In passing through some loose stony ground some stones spotted with munde and copper were met with.

VICTORIA.—The deep adit has been driven north 7 ft., ground favourable; the shallow adit south has been driven 4 1/2 ft. The cross-course is a large decomposed granite. Nothing new as yet discovered in either cross-cut, and the tin lode not taken down for the week. The western level, on the north lode, has been driven about 6 ft.—lode small and poor.

WEST DING DONG (SANCRED).—On Saturday (June 7) we set pit to cut, to put in penthouse, &c., in the 17 fm. level, preparatory to sinking the engine-shaft another 10 fms.; the lode from the 7 fm. to the 17 fm. level in this shaft will work at half tribute. The 17 fm. level east is set at 47. 10s. per fm., and 2s. 6d. tribute; the lode opened on in this level would set at 10s. tribute. The western end is suspended whilst the pit is cutting; the lode quite as good as in the eastern level, and ground just the same. The 7 fm. west is in a disordered state, having just passed a cross-course. We had a good lode to within a few feet of the cross-course, and, on getting off, the lode will again improve; price, 40s. per fm. The winze sinking below this level, about 12 fms. from shaft, is looking very well; depth 4 fms., with a good lode in each end and going down; price, 81 per fm., and 2s. 6d. tribute. We have taken up a shaft about 30 fms. west of this winze; the lode is all worked above the adit level, and there are several small branches of tin falling in with it, which have a very kindly appearance. I expect we shall have as good tin ground east and west of this shaft as we have in any part of the mine. We have only one tribute pitch working east of the shaft at 10s., but shall be in a position in the course of two months to set four others, one west of the shaft, east and west of the western winze, and east of the eastern winze, and under, 10s. in all. As the water has fallen off, we shall not return so much tin; our object now is to lay out the mine so as to be in a favourable position for doing so when the wet season returns. Our stamps' floors are in good dressing order. Upon the whole, I think our prospects bid fair to remove the prejudice there has been against this district.

WEST GOGINAN.—The lode in the engine-shaft, sinking under the 15 fm. level, is from 5 to 6 ft. wide, spotted with lead ore. The lode in the adit level, east from the old shaft, is 5 ft. wide, composed of gossan, mixed with spar, jack, and killas, and at times small branches of lead ore. The men are getting on well in cutting the water-course, and hope to complete it by the end of next week. The carpenters have nearly finished the wood work for the wheel.

WEST RUSSELL.—The lode in the 37 has a promising appearance, being from 3 to 4 feet wide, with a branch of copper ore on its west part.

WEST WHEEL JEWELL.—The 85 fathom level, west of Williams's cross-course, on Wheel Jewell lode, is worth 61 per fm.—drove last month 3 fms. We have sunk the winze 4 ft. The 70 west is suspended, to sink a winze below the level—drove last month 1 fm. 4 ft. 3 in. The cross-cut south, in the adit level, drove last month 3 fms. 3 ft. The 57, west of Hodgo's cross-course, on Tolcarne tin lode, is worth 91 per fm.—drove last month 1 fm. 4 ft.; the stope in the back of this level, worth 202 per fm.—stope last month 4 fms. 6 in.; the stope in the back of this level, worth 202 per fm.—producing stones of tin, drove last month 1 fm. 5 ft. 6 in. The 42, west of Hodgo's cross-course, on Tolcarne tin lode, producing stones of tin, and has a promising appearance—drove last month 2 fms. Sunk in Quarry shaft last month 5 feet 6 in. Sunk in Tregeon's shaft last month 1 fm. 5 ft. The shallow adit level, west of Tregeon's shaft, on Tolcarne tin lode, worth 71 per fm., drove last month 2 fm. 2 ft. The stope in the bottom of the 12, east of Quarry shaft, on the same lode, are worth 101 per fm.; the stope in the bottom of this level, west of Tregeon's winze, on the same lode, are worth 241 per fathom. These stope are working on tribute.

WEST WHEEL TOWAN.—In driving the 20 fm. level cross-cut north from Taylor's shaft, a lode has been intersected in the past week; it is 6 in. wide, rich for tin and munde, and looking promising. The lode in the 18, east of Caroline's shaft, is 5 feet wide, spar, munde, and tin, and looking kindly; the north lode is not yet cut in this level. In the winze sinking from the 7 fm. level there is a very promising lode, 4 feet wide, saving work for tin, and the ground about the lode is so thickly impregnated with tin branches, that the whole is saved for the stamps. The sinking of Taylor's shaft and other works are proceeding favourably. The tinstuff broken by the tributaries has been sampled, and turns out quite to expectation.

WHEEL ADAMS.—In the 72 fathom level we have driven the end to the south boundary, and have made every preparation for the Wheel Exmouth men to commence driving to-day (9th inst.) Although the rise on the quartzose lode has met with a floor of friable quartz and clay-slate, we expect a change in a few feet higher up. The stope will now produce about 1 1/2 ton of ore of good quality in a fm. The stope to the north of the rim (lode 30 feet wide) are worth 281 per fm. for the width of the lode. The stope in the bottom of the 58 with produced 24 tons of ore per fm. The lode in the 50, north of old engine-shaft, is 2 feet wide, composed of quartz and barites, spotted with

lead—ground favourable for driving. The ground in the 40 cross-cut, towards shaft, contains good, but our progress is slow, on account of a deficiency of air; the stope in the back of this level will produce 2 cwt. of lead per fm. The 38, driving north, is still in disordered ground. The pitch continues much the same as last reported. At Aller, the lode does not contain quite as much gossan or carbonate of lead; it is more slaty and munde throughout. No alteration has taken place at Hill; lode large, and contains some good quality munde, with very favourable indications. We have weighed off 57 tons (30 cwt. munde) of good quality lead ore, and will forward this bill of lading in a day or two.

WHEEL AUGUSTA.—This mine is in the same part of the St. Just district as the Ballewidden Mine. Its stanniferous character is the same, being, from all the evidence deducible, formed under the same circumstances. The amount of work in driving and sinking has pretty clearly elucidated the point, which tends to the conclusion that this mine will ultimately be a valuable property.

WHEEL BENNY.—We have men employed in driving east from the cross-course on the Wheel Benny lode; the said lode is cut through 3 fathoms behind the end, 3 ft. wide, composed of capel, spotted with munde. As soon as I can get the water-lead and air pipes in the level, I intend to put the same men to drive south-east of the cross-course, as a trial of that ground.

WHEEL CREBOR.—In the 54 cross-cut we have met with the north lode; the part already seen is about 1 ft. wide, rich for copper; the cross-cut will be continued north, as the lode are only about 10 ft. asunder, and are likely at the present underlay to form a junction between this and the next level; and I have every reason to believe our deeper levels will, when driven through, bring Crebor into the position she once held—viz., a good mine. The lode in the 40 end is of a promising character, with good stones of copper in the same, but not to value. Our tribute and dressing are going on favourably. We have the foundation of the house taken out.

WHEEL GILL.—The masons are getting up the house, and doing their work satisfactorily. All is gradually getting into a healthy position.

WHEEL GOLDEN CONSOLS.—Thorne's shaft is now sunk to the 87 fm. level; the ground is good, lode 14 in. wide, producing 10 cwt. of ore per fm.; we shall commence sinking again to-day (June 13). In the 87 fathom level south the ground is good; the lode is 2 1/2 ft. wide, producing 1 ton of ore per fm.; in the 87 fm. level north the ground is good; the lode is 11 in. wide, producing 3 cwt. of ore per fm. In the 77 fm. level south the ground is good; the lode is 2 ft. wide, producing 3 cwt. of ore per fm.; in the winze sinking under the 77 fm. level north the ground is good; the lode is 14 in. wide, producing 7 cwt. of ore per fm.; in the rise, in the back of the 77 fathom level south, the ground is good; the lode is 7 in. wide, producing 3 cwt. of ore per fm. In the 70 fm. level north the ground is good; the lode is 2 ft. wide, producing 10 cwt. of ore per fm. In the 60 fm. level north the ground is hard; the lode is 2 ft. wide, producing 3 cwt. of ore per fm. In 30 fm. level north the ground is moderate; the lode is 2 ft. wide, producing 2 cwt. of ore per fm. At the engine-shaft, in the 70 fm. level, south of cross cut, the ground is hard; the lode is 3 ft. wide, producing 3 cwt. of ore per fm. At Webb's shaft, in sinking under the 60 fm. level, the ground is good; the lode is 1 1/2 ft. wide, producing 3 cwt. per fm.; in the 60 fm. level south the ground is hard; the lode is 6 in. wide, producing 4 cwt. of ore per fm. The tribute pitches in general are looking well. We set, on Saturday last, 12 tribute pitches, varying from 31. 10s. to 71 per ton. We sampled, on Saturday last, 55 tons of saleable ores. The quantity would have been more, but the fixing of the steam-whim cage was not completed until Monday, the 2d June, which, I am happy to say, has been answered well. The winch is hauling day and night, to bring ore to grass as quickly as possible.

WHEEL HAMLYN.—We are driving on the course of the east and west lode with all spirit, in order to get out of the limestone and under the shoot of ore gone down in the quarry. There is scarcely any alteration in the end since my last report.

WHEEL LANGFORD AND BARING.—Since my last report we have sunk Dare's shaft 5 ft., and are now 1 fm. 4 ft. below the adit level; the ground is of a favourable character, but the water is increasing. I think with the assistance of a whim we may be enabled to sink great part of the way to the 10 fm. level, or 10 fms. below the adit, by the time the engine is erected; the engine-house is progressing favourably, and if the weather is favourable for the masons to work, I hope it will be completed by the end of this month. We took the silver lode on the 11th instant, and broke about 7 cwt. of silver ore of moderate quality. We have lengthened and timbered Baring's shaft to the 5 fm. level, and are now clearing up and lengthening the same below the 5 fm. level. I have not received an offer for the parcel of silver ore mentioned in my last, but expect to in the course of a day or two, when I will give you all particulars.

WHEEL MARY EMMA.—The lode in the deep adit level, driving west, is 3 ft. wide, composed of capel, elvan, peach, spar, and tin, and large, and has altogether a better appearance than has been the case for some time past. No alteration in the other parts of the mine.

WHEEL PENHALE.—Since my last report we have made fair progress in driving the 40 fm. level end south from the engine-shaft towards the cauter winze, and in this driving have met with a very pleasing improvement in the cutting of a rich branch of lead and copper ore running parallel with the old lode; the ground in this end is much as it has been for some time past, and from the dialling yesterday (June 6) of this end, and the north end from the winze, we find we have about 6 ft. more to drive, besides a trifling cross-cut, to bring these ends in conjunction, all of which I hope to see completed in the coming week. As soon as this is done, we shall immediately commence sinking the cauter winze from the 40 fm. level, as it will be born in mind from the fact that the lode in this winze, though very rich throughout from the 30 to the 40 fm. level, was at no point so large and rich as it is in the very bottom; and should it continue so 10 fms. deeper, of which we have not the slightest doubt, it will lay open ore ground of no small amount, and leave no difficulty in getting the mine to pay her own expenses, and a good profit. We have not done much in driving south since last report from the winze, but as far as we have yet gone in this direction the lode shows little else than a solid mass of lead, and for by far the greatest part of the distance we have driven on this lode we find it better in the bottom of the levels than in the back, which adds greatly to our prospects in deeper levels. We have commenced driving south-west from the engine-shaft in the 30 fathom level, on what appeared at first to be only a branch, but in opening on it about 2 fms., which we have now done, we find a lode about 2 ft. wide, of exceedingly good appearance, producing very fine stones of lead and copper; and this lode, as it gets apart from the elvan which is about the engine-shaft, will, no doubt, become more productive of ore, and, in every probability, will be another very important point in the mine; and though I have seen the tribute department looking somewhat better than it is at present, yet at no time have we had greater encouragement to press forward from the general appearances.

WHEEL RUSSELL.—The sinking of the engine-shaft is going favourably down 6 fms. below the 48 fm. level. Two branches have been cut in the last 6 ft. sinking 5 ft. wide, containing copper ore, and underlying towards the lode. In the 48 fm. level, driving east, we have been interested, and have been interested, with a good branch of copper ore in it on turning to the right, which evidently shows the lode to be in that direction. In the end driving east, on the north lode, in this level, we have also met with a cross-course, having precisely the same effects on it as that of the south lode. We continue driving the 16 south on the cross-course, and scattered stones of copper ore are constantly being met with. The pitches, on the whole, are looking equally as well as last reported. We have about 70 tons of ore, which are now in course of sampling.

WHEEL RUTH (SHEEPSTOR).—I have just come from underground, and find the lode in the 12 fm. level going east to be greatly improved within the past two days, and is now worth upwards of 151 per fm. for tin, and looks well for a still greater improvement, as the lode is much richer in the bottom than in the back, but as we open on its course it appears the tin is raising up in the level. We have now a moderate pit of tinstuff at surface, consequently I purpose to put the additional three heads of stamps to work to-morrow. During the past week our stamps have turned out some good work, and are constantly going by day and night, and in a little time we shall have a good parcel of tin for the market.

WHEEL VENTON.—Our north end continues to improve; we have lead thinly scattered through 2 ft. of its width, but it is still improving, and the ground, which has been rather hard, is much easier. The shaft is going down vigorously, the ground moderate, and the price 131 per fm. In the south ground we have not yet cut the lode, but hope to have it shortly, and to have it good, as the stratum is very congenial.

WHEEL ZION.—Our shaft is now down 10 fms. The next 2 fathoms are taken at 51. 10s. per fm., which is a reduction of 30s. per fm., the ground being softer. The shallow draining adit is holed, relieving the shaft of water, and giving it a valuable supply of air. The men who worked at the draining adit are now placed with those in the second adit, to hasten it home, and drain the champion lode 12 fms. 4 ft. at the shaft. Last Saturday I marked out the spot for the main shaft 50 fms. west of the present one, and it will be found, when sunk, on the junction of the two great lodes. At the junction the adit will be about 20 fathoms below the surface. The new work will be done without any addition to the present number of hands, unless any unforeseen circumstances occur.

FOREIGN MINES.

ALTEN MINING ASSOCIATION.—[Dated May 23].

Raipas.—The stope west of Monk's shaft continued poor, but promising. The winze under the 20 (No. 11), is rather improved, and a small quantity of rich purple ore has been produced. We have resumed operations on the lode passed through in the 20, and from present promising indications have every reason to expect better success. The returns continue small, and of a general low quality, but as soon as the disappearance of the snow admits of our resuming the surface operations, we expect to obtain much more favourable results.

United Mines.—The prospects under the 40 continue favourable—lode large, and contains some good ore, but the operations are somewhat impeded by melting of the snow. **Old Mine.**—The prospects are still promising, and the lode is large in Slung's sink, yielding fair returns, but not rich. The middle sink holds out good prospects, with remunerative returns. We intend next week to resume tribute operations on the new lodes at the surface, and hope to be more successful.

Michael's.—The workings have lately been confined to tribute on the new lode, south of the lobby, from which small but satisfactory returns have been made. At this mine, during the last eight days, we have been much troubled with water, arising from the thaw.

LINARES MINES.—The following has been received from Mr. H. Thomas:

Linares, May 31.—The engine-shaft sinking under the 31 fm. level has been deepened during the month 2 fms. 4 ft. 3 in., and is now below the level 4 fms. 3 ft. 9 in., proceeding satisfactorily. The cross-cut in the 18, towards the engine-shaft, is driven 1 fm. 1 ft. 1 in., the east end, 2 fms. 4 ft. 3 in., during which has been raised 7 or 8 tons of ore, a fathom; it is now worth 6 tons. The water is not drained by this end from the Tanco, but may be promptly expected; the level west is driven 1 fm. 0 ft. 3 in., and opening on a lode worth 2 tons a fathom, with very favourable features. The 45 has been driven west of San Juan shaft 7 fms. 2 ft. 4 in., and is now set for two varies at 110 rails per vara; east of the shaft is at present poor; and, fearing that we have not the same part of the lode which we find so productive immediately over this end, we have set the Mento cross-cut 2 varies for further proof, at 350 rails per vara. Shaw's shaft, sinking under the 45, has been deepened during the month 3 varies 2 ft. 9 in.—its total depth under the level being 18 varies 1 ft. 7 in.; the lode is unproductive. Our other task-erk bargains refer to the clearing of the old workings east of Shaw's shaft, in the 31, which we expect will admit of another tribute bargain. The pitch set last month in the back of the said level, on ground left unworked by the old adventurers, is turning out very well. The tribute pitches are re-set for the coming month at about the same rate of tribute. January account shows a shipment of 25 tons of ore, per *Alonso*.

I subjoin a new account—viz.: the first weekly account of prices and loading of pig-lead—on which I have to offer the following explanations, in order to determine, as far as

It is at present practicable, the regular daily yield of the two reverberatory furnaces at present having the fire in at Paso Ancho. There were delivered, prior to commencing smelting, 490 arrobas of ore to the furnaces for the purpose of making the hearths; and for some days a portion of each charge would be absorbed in further stanching, as you will see by the following memorandum, showing a diminishing loss on each day; and I suppose we can hardly yet see that they have absorbed all that they require.

FURNACE No. I.				FURNACE No. II.			
May	Arrobas.	Pigs.	Arrobas.	Percent.	Arrobas.	Pigs.	Arrobas.
26	240	28	113-13	about 47	240	39	145-8, about 60 1/2
27	240	38	149-14	62	240	37	148-15 " 69
28	240	38	148-18	60 1/2	240	39	149-15 " 64
29	240	39	150-	65	240	38	150-1 " 62
30	240	40	150-	66 1/2	240	43	161-1 " 67 1/2
1220	184	723-20	60 1/2	1220	191	769-	63 1/2
as ore.				as lead.			
				average.			

Considering, therefore, that the furnaces are still absorbing a portion of the ore with which they are charged, it is with satisfaction I send you this account, having in my estimate calculated only on 54 per cent. as the produce of the reverberatory furnaces; we shall, therefore, have less accretion to smelt by the costly probe, or blast-furnace, and the total cost of smelting per ton will be proportionately diminished. Moreover, I believe that the total produce derivable from smelting here will be in excess of 70 per cent., provided for in my estimate. It must be also understood that the lead from the reverberatory furnace will contain more than 14 ozs. of silver to the ton, which will leave a considerable profit on the process of desilvering. On this point I will advise you accurately, after I have made further assays; but taking into consideration all these favourable circumstances, I look forward to a most beneficial result from the smelting operations.—Weighed in this week, 34 tons 2 cwt.: total in stock, 1043 tons of ore, and 17 tons of pig-lead.

IMPERIAL BRAZILIAN MINES.—[Received June 9.]

April 26.—About four hat-caps of work for the washing-house have been obtained from a small part of the vein which was remaining near Hocheider's shaft. We have taken some middling samples from the south vein near this shaft, about 15 feet south of the old workings, on which some trials were formerly made, and as the 14 fm. level is now laid open to the surface, I think it would be advisable to give it further trial by driving two levels east and west; the expense will be trifling. A part of the Joiville stamps has been completed, and 12 heads have been put to work; we hope to put six more during next week. The remaining portion of the tram-road to the stamps have been laid; it is a wooden one.

April 28.—Owing to the recent breakage of surface rods at Walker's in two different places and times, and the millar of the iron wheel again breaking asunder, thereby interrupting all our principal underground operations, have prevented our measuring the work and sending you the plans and sections. We trust the whole will be put in order again, and the water forked, so as to forward you the documents required. In dismantling Thomas's old wheel, we found the millars (7 in. diameter) tolerably good, and having no alternative but to put one of these in the place of the broken one, we deemed it advisable, on account of its being underhand and no dependence to be put on its strength (being manufactured, as we suppose, in this country), to place the load equally on both millars, by fixing the wheel in what is called a cradle, which we trust will hereafter work without any interruption beyond the usual stoppage to change bucket, &c. Nothing has been done in the stope in the bottom of the 14 fm. level on the big pump vein. The men have since cut the vein in the 24, and are now rising on it to unwater the ground above, and make advantages for stoping; it produces stuff for the stamps only. In driving 4 fms. below the 14 fm. level, north of Thomas's shaft, the ground has been very hard, and owing to sickness occurring to several of our Englishmen, and Gibson's shaft requiring to be secured, as Joiville's stamps have been set to work, the level below, have prevented our working regularly. The vein in the bottom of Thomas's shaft has given a little ore for the washing-house, and is yielding stuff for the stamps, but the ground is heavy and dangerous, requiring great care and attention. Gibson's shaft has been sunk sufficiently to enable us to put in a set below the bearers and clisters; ground tolerably favourable for sinking, with the exception of the north-east corner, which is very hard and troublesome.

Gold Report.		Gongo.		Bananal.	
From 28th March to 7th April	.....Lbs.	2 10 12	0	.....	1 8 0 0
From 8th April to 17th April	.....	1 9 12	0	.....	4 3 15 0
From 13th April to 27th April	.....	4 10 7	0	.....

Total 9 6 11 0
Total from 1st January 30 9 0
A remittance of 491 lbs of gold has been received by the *Tenist* steamer.

Bananal, April 28.—The poor produce is principally owing to the poverty of the ground above the 24 fm. level. We are very much disappointed in this ground, for in driving the 24, as I have repeatedly stated, we had good prospects, but the bunch of gold passed through, and continued only a very short distance above the back of the level—whether it continues in depth is yet to be proved, and this we are preparing to do as early as possible; but at present our prospects here, I regret to say, are rather of a gloomy character. I regret to say that on the 23d inst. another breakage occurred to the millar of the iron wheel, the same I had from the Cocas. It went in two in the bearing, a most promising circumstance. We, however, hope to be working again to-morrow, on a new principle—that of dividing the weight equally on the two cranks, as explained in the captains' report, for which purpose we have substituted a millar lately taken out of Thomas's wheel; although it appears good, it is only 7 inches in diameter, but only having half of the load to lift, I think it is likely to stand. This has been a most unfortunate machine, and has given us a great deal of trouble and annoyance. In the captains' report you will please to observe that the big pump vein has been cut in the 24, and some stuff extracted from it; but I regret to say that it has proved poor, as well as that of Thomas's in the same level. We have had a little work from the latter in stoping down Thomas's shaft, but, with this exception, the mine throughout has been merely yielding stuff for the stamps. In consequence of the breakage of the iron wheel, all the zinc below the 14 has been filled with water; but Gibson's shaft is now 3 fms. below the 24, and previous to the breakage was going on satisfactorily. The breakage of Walker's rods, alluded to in the captains' report, were some of the old ones put in by my predecessor; but I am happy to say that there are not many of these left, as the whole run has been nearly replaced with new. The new adit shaft, north of Wray's, named "Blamey's," has been communicated to the adit level: ground favourable, and we are making rapid progress. At Gongo, in the ensuing month, I expect a great increase of produce, as Joiville's stamps have been set to work, though with 12 heads only, the other is not being yet ready. Our greatest chance is the finding of bunches left by your former miners, but hitherto these have been small and far between. We have met with another small bunch of gold at Gongo, which yielded about 7 ozs., but beyond this and Capt. Joy's reports I have nothing more to communicate. We have succeeded in making a cart-road into Santa Rita, a difficult piece of work from the mountainous nature of the ground. I intend the first trial of the formation to be on, say, 30 tons, which we can easily bring down by ox carts or on mules' backs, and stamp it here. The stamping will not occupy many hours, the stone being very soft. It will give some idea of what it will produce, and I intend to commence almost immediately.—JO

branches. In the 10 ft. level, now 5 fms. west of Taylor's shaft, the lode has been improving for several fathoms past; it is now 4 ft. wide, 12 ft. is compact copper pyrites, and another foot mixed with malleable; we estimate 4 tons of ore already broken, and 3 tons a fm. as the present production. The ore is rising westwards; but is not yet to the back of the level. In Taylor's shaft, 4 fms. under the 10, is a similar description of ore; it is not yet quite across the shaft; we expect, however, to find it so shortly. In the adit levels there is no change worth mentioning. We have commenced wining from both adits to sink to the levels below them. In Goldsmith's shaft is a large lode, composed principally of friable quartz, with stones of ore occasionally; having water in the shaft, we think it better to postpone sinking until the levels east from Thompson's approach near enough to draw off the water.

UNITED MEXICAN MINING ASSOCIATION.
Guantanamo, April 28.—RAYAS.—The usual monthly report on the mines generally, by Mr. P. B. B. is herewith enclosed. The changeable character of Rayas has been fully maintained, inasmuch as in place of yielding an increased produce, as anticipated in the last report, it has on the contrary, somewhat declined. The intervention of the Easter holidays has also contributed to lessen the extraction. The decline in buques or ore is gradual, and has nearly reached the point at which it will be necessary to discontinue this class of workmen. The returns for the month of March were \$22,601 17.

ALABAMA.—The level of Ishagah has been continued throughout the month, without developing anything of importance, while the character of the rock is favourable, both in class and appearance. It is to be hoped that by the continuance of this work, with occasional tests of the vein by cross-cuts at certain intervals, some discovery may occur, which will repay the association for the labour and money already bestowed upon the speculation.

PANAMA.—On the 3d inst. I formally advised them of the relinquishment of the mine by the association, and at the expiration of the two months stipulated in the contract of "Avio" shall deliver over the same.

JESUS MARIA Y JOSE.—Although the same indications of a near approach to the vein continued to manifest themselves in the cross-cut of San Ignacio, we have not as yet attained the desirable end of cutting it. With the object of testing the quality of a small vein, which was passed through in going down in the shaft, a new cross-cut, called San Ricardo, has been commenced, which requires driving only some 10 varas from the present point to accomplish the end in view. It is, therefore, to be expected that each week may produce some interesting manifestations in respect to this mine.

MINA GRANDE.—The cross-cuts of La Bomba and San Jose into the principal vein have not in the month produced any decided results, further than that of the last week. Some stones of good ore have presented themselves in the latter work, without as yet assuming the character of a defined body of ore. The remission of cargo to the hacienda during the month has slightly exceeded that of the previous one.

TRINIDAD.—The work of ventilation between the mine and the shaft being absolutely necessary, it has been determined to abandon all other workings until this is completed, by which a great saving of time and expense will be effected.—J. H. GLASS.

Report on the State of the Workings in the Mines of the United Mexican Mining Association.

RAYAS.—BUENOS-AIRES.—The only change to be remarked here is a continued gradual decline in the produce and sales, owing to the exhausted state of those portions in which they are employed.

Frente de Santo Toribio.—This level has advanced to the south-east 6-95 varas, and the prospects for ore in the end has declined. The trial by pozo, which was mentioned last month as being made on the ore cut through, was prosecuted to the depth of 6-35 varas, and there suspended, as the ore gave out. Regarding the workings of San Diego and Santa Isabel, we have only to repeat what was said last month. The vein is wide, but much ramified, and therefore the ore is obtained at much expense; the average yield of ore in the workings is also inferior to that of other workings to the north-west, and this is making both as to silver and gold. In the workings of Santo Toribio Pozo, San Crescencio, and San Cristobal, trials of the vein are still being made, and a little good ore is obtained. The Contra Cielo, Frente de La Purissima, and Frente de Jesus, continue producing a fair proportion of ore of an improved yield. There has been no change in other portions of these workings worth mentioning. Ore is being obtained in small quantities in several points from the sides or walls of the older workings, but this source of produce must soon be exhausted. The average number of workmen employed during the month has been 70 barmen by day and night, and the produce of dressed ore remitted to the hacienda amounts to 3050 varas.

ALABAMA.—The level to the north-west, del Refugio, has advanced 12-20 varas without any further changes than those mentioned last month. This work, it will be recollected, occupies the portion of the vein near the upper wall. It is proposed this month to make a trial of the vein by a short cross-cut, but without discontinuing the level.

MINA DE LA TRINIDAD.—The cross-cut of San Francisco has been advanced 2-77 varas, and is now suspended. This work is on a level with the bottom of the shaft, and has, in my opinion, proved that the vein does not pass to the north-east of the mouth of the mine. The level of La Natividad was resumed, as anticipated last month, and has advanced 8-40 varas; the end is at present in hard and unyielding rock. The want of a communication between the mine and shaft makes any work carried on in the latter expensive, as the malacate, day and night, is indispensable. The want of ventilation is also becoming a serious evil, which must increase as the work advances. Regarding these circumstances, and with a view to an economy both of capital and time, we have proposed to limit operations for the present to the sole object of effecting the communication above mentioned, and doing this in a manner which will, for the time being, reduce the weekly expense to one-half of its present amount.

MINA DE JESUS MARIA.—The cross-cut of San Ignacio has advanced 14-54 varas; the rock continues favourable for driving, and shows indications that the vein is not distant. The cross-cut from the mine has advanced 15-94 varas, and is at present in rock very much resembling that of San Ignacio cross-cut. In the cross-cut of San Ignacio, and near the shaft, we have commenced a work to try the vein cut near the bottom of the shaft; this vein when cut through was about 4 varas wide, and presented a promising appearance. This new work is called San Ricardo, and has advanced 14-17 varas.

MINA GRANDE.—In this month the cross-cut of San Luis has advanced 4-90 varas, but has not, as yet, cut into the principal vein; a trial has been commenced on one of the branches of this cross-cut. It is, therefore, to the north, is called San Isabel, and has advanced 3-30 varas. This work may be converted into a pozo, as the ore is making best downwards. In the cross-cut of La Bomba but 3-17 varas have been driven during the month. This dilatory progress (ascribable to the hardness of the rock and abundance of water) prevents us from communicating any positive results regarding this interesting work, of which great hopes are entertained. The Frente de Noche Buena has advanced 12-27 varas, continuing outside of the vein for the greater facilities for driving. It is now near the point where we propose trying the veins by cross-cuts to the east and west. The cross-cut of San Jose, which is the name of the cross-cut to the south of the arrastre, has advanced but 3-10 varas, owing to the hardness of the vein, and continuing poor until the last two days, where ore has commenced, appearing of a fair quality, although we are not able to say whether it is or not a formal deposit. We have now in progress in this mine five workings in the vein below and beyond the limits of the old workings; therefore, we may reasonably expect from day to day some interesting change.—S. P. PARKMAN.

THE WORTHING MINES (SOUTH AUSTRALIA).—

Extract of a private letter from Adelaide, dated 3d March:—"The writer also visited the Worthing Mines last evening. The appearances at the water-wheel shaft are good, as also in the south and driving at the middle gully. The engine-house is actively progressing, and we trust when the engine is at work the results will be found to answer all our expectations. A box of samples has been sent by the Taglioni to the directors of the Worthing Mining Company, sailed on the 1st inst.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

DEVON CONSOLS NORTH.—A great improvement has taken place on the north lode, where a shaft is now sinking; the lode is 3 ft. wide, composed of gossan, prair, spar, and munda, and holds out great promise to the adventurers. The shaft on the south lode is nearly 5 fms. deep; the lode is 5 ft. wide and compact, composed of spar, munda, prair, and gossan, and these lodes have every appearance of making an abundance of ore in depth. The north lode varies in size in different places from 3 to 10 ft. wide, which is now open for any one's inspection at Wheal Providence, where it is 10 ft. wide, and thickly impregnated with copper ore of a good quality.

THE FOREST MINE (Illogan) has lately been set to work by Mr. John Rule, of Camborne, in connection with other gentlemen of that neighbourhood. The position of the sett is exceedingly favourable; it adjoins that of South Wheal Frances, and the lode, whose very promising appearance has attracted the attention of every experienced miner who has seen it, gives indications of early produce. We understand that the Messrs. Taylor have lately taken a large interest in this mine, and that an energetic trial is likely to be made immediately.

DEVRON MINE, in the county of Cork, has been purchased by a party in town, with a view of prosecuting it either on his own account, or of forming a company to do so. It worked from 1834 to 1847, and fell into the hands of the late Mr. John Rule, who was the principal adventurer—60000 having been expended in working and erections. It is now held under a new lease for 32 years at 1-16th dues, and a moderate outlay is calculated to bring a large quantity of good quality copper ore and silver-lead into the market, and repay the whole outlay that has been made.

LIANNY MOVDWY MINING DISTRICT.—Operations that are likely to open up a wide field for future enterprise have commenced here. The Galt-y-Maen Mine is in work by a party of Cornish miners, under the superintendence of Captain Champion, son of Captain Champion, of East Wheal Rose, Cornwall; the Great Cowarth Mine, also by Cornish miners, under the management of Adam Murray, Esq. During the past week a new mine has been discovered; it contains four fine lodes, one of them is said to be a champion lode, and contains mineral up to the surface—it is considered to be copper, but impregnated with both lead and copper. It is to be hoped now that men of practical mining and engineering experience are at work in the district, this long neglected, though valuable, mineral property will be thoroughly explored, and brought before the public.

MACCLESFIELD COPPER MINES.—The operations here are being pursued with spirit by the adventurers who have lately acquired the property, a third lode having been discovered, 8 to 9 feet high, about 600 fms. west from the present workings, and an adit being driven to intersect it at 25 fms. deep, which will be at a distance of 25 to 30 fms., and is expected to effect that object in eight or ten weeks, the average cost of driving being contemplated at 40s. to 45s. per fathom. The specimens or portions of the lode taken from a depth of 10 ft. are highly promising, with a kindly gossan, good prair, and an admixture of ore, which would appear to contain silver. A wheel of 24-ft. diameter is upon the mine, and another of 40 feet has been contracted for, there being an ample supply of water. The depth of the mine is about 32 fms. The extreme distance of the lodes may be taken as 34 fms., the north lode being 20 fms. north of the middle lode, which again is 14 fms. distant from that south. It will, therefore, be apparent that by driving a cross-cut in the 32 fm. level from the south to the north lode, intersecting that intermediate, would be about 35 fms.

driving, which at a moderate-priced ground would not require more than three or four months to effect the object, at a cost of about 1000. The nature of the ore obtained is of good quality pyrites, with native copper, and the gossan from the shallow levels holds out promise. The ground is said to be easy, with a kindly killas. The present workings are mainly confined to driving a cross-cut to take the lode, excepting surface operations.

ACCIDENTS.

Awful Fatal Boiler Explosion.—On Saturday morning last, shortly after seven o'clock one of the most dreadful boiler explosions that it has been our duty to describe occurred at the Starvel Colliery, Kingswood, Gloucestershire. It appears that the proprietor, Mr. Brain, had determined on substituting a new boiler for the old one, which had been at work a very considerable length of time. The boiler was prepared, the engine stopped working, and the men and boys (25 in number) had begun to pull away the brickwork for the purpose of removal, when the boiler, weighing 7 tons, exploded—flow like a rocket 70 feet into the air, and falling on a stack 50 feet high, divided—one portion falling on the east and the other on the west side of the engine-house; the masonry and brickwork being shattered in all directions, and the whole scene a heap of ruins. Seven individuals were either killed or died shortly afterwards, and eight others are dreadfully injured, and lie in a more or less precarious state. On the coroner's inquest, it appeared from the evidence that the accident was occasioned by want of care and attention on the part of John Burchell, the engineer. On the morning in question he acknowledged there was very little water in the boiler, and Mr. Brain ordered him half-an-hour before the explosion to blow off his steam, and let the men who were down the pit come up the other shaft; this he neglected, and even said to Samuel Osborne, one of the men, that "the boiler was all right, and would blow up." Mr. Brain, an engineer who was present, attributed the explosion to the injection pump throwing water on a highly-heated surface, and suddenly generating a great quantity of steam; the partial removal of the masonry had nothing to do with it. The jury, after a short consultation, returned the following verdict:—"That the deceased parties died from injuries caused by an explosion of steam from the bursting of the boiler of a certain steam-engine, and that the said explosion was caused by want of care and attention on the part of John Burchell, the engineer, who had charge of the said engine." The poor fellow has paid a severe penalty for his carelessness; he survived several days in acute agony, ere death released him from his sufferings.

Barnley Colliery Explosion.—A fatal explosion of fire-damp occurred at Messrs. Firth, Bailey, and Co.'s, Barnley Colliery, by which three men were instantaneously killed. Four others were hurled into eternity, and the works have been but partially followed up since. At the time of the explosion only three men were working in the pit, and at the 12 o'clock shift Thomas Billington, Charles Richardson, and James Bailey were being let down the shaft, which is 284 yards deep, and when about 80 yards from the bottom a terrific explosion took place, the flame rushing up the shaft with fearful violence, and out at the top like the crater of a volcano. The two latter were brought up in the cage dead; but Billington fell into the sump, in which was 12 feet of water, and it will, probably, be some time before his body is recovered. The Government Inspector was present at the inquest, and a searching investigation took place, without implicating any one, when a verdict of "Accidental death" was returned. The colliery is on fire, and it is impossible even to search in the sump for the body of Billington.

Pontypridd.—Another explosion, of rather a serious nature, has occurred in the pit of Mr. John Calvert, by which two poor men were seriously burnt, besides considerable damage being done to the pit.

Swansea.—Mary Williams, aged 17, was picking up waste coal at the Cwm level of the Swansea Coal Company, when a wagon, being tipped, got beyond the tram-plate and fell over, striking her on the side and burying her in rubbish. She died in 24 hours.

Yatalgra.—Thomas Jenkins, aged 13, was killed at the Wern Colliery by falling with the wagon down the shaft; and although the rope was attached, and the brake put on, when brought up it was found that a bolt had been forced into his throat, from the effects of which he died.

Sunderland.—Wm. Cully, aged nine, was run over and killed at the Kellow Colliery.

Durham.—R. Foster, aged 12, was killed by the transit at Castle Eden Colliery.

Dudley.—W. Hanbury was killed by a fall of coal at Mills & Co.'s pits, Rowley Regis.

Wannay.—A serious explosion took place at Thomas's colliery, by which three men were very dreadfully burnt, and another much injured. The accident occurred in consequence of one of the men having gone with a naked candle to an old working, where he had some tools.

Donkirk.—Richard Lewis was killed by a stone falling on him in the mine work.

Ashton.—As four boys were descending a shaft at Haydock Colliery, a large stone fell from the side of the shaft, broke one boy's arm in two places, and injured another of them.

St. Helens.—Thomas Critchley was killed at Messrs. Caldwell and Thompson's Gerard's-bridge Colliery, by falling from the basket, a distance of 84 yards, down the shaft.

Wigan.—James Taylor was killed at Messrs. Rylands's Colliery, Gildow-lane, by a brick falling down the shaft upon his head.

West Basst.—As some miners were clearing up an old adit, which had not been used for 11 years, they found at the bottom of an old shaft the remains of a human body, which proved to be that of John Waters, a poor insane miner, who wandered from his home on the 19th December last, and had not been seen since. He could only be identified by his shoes.

Polebury.—A young man, named Hooper, received a severe crush in his bowels and kidneys by one of the wagons, which were drawing coals from Trevenance pier to the mines, coming in contact with the drum on which the draw-rope is attached.

Current Prices of Metals, Stocks, & Shares.

METAL MARKET London, June 13, 1851.

ENGLISH IRON.	per ton.	Tile	per 1000.
Bar, bolt, & square, London	25 5-10	Old copper	8 1/2
Rail rods	5 2-6-10	Yellow Metal Sheathing	7 1/2
Hoops	7 0-7-10	Wetterstedt's Pat. Metal	1 12 0
Sheets (single)	7 12-6-8	FOREIGN COPPER.	
Bars, at Cardiff & Newport	4 10-4-15	South American, in bond	77 0-8 0
Refined metal, Wales	3 0-0-3	ENGLISH LEAD.	
Do. anthracite	3 10 0	Pig	17 5 0
Pigs in Wales	3 0-0-4	Sheet	18 5-18 10
Do. do. forge	2 5-0-10	Pipe	19 0 0
Do. No. 1, Clyde	1 19 6-2 1	Red lead	19 0 0
Black's Patent Refined Iron	3 10 0	White ditto	24 0 0
For bars, rails, &c., free on board at Newport	4 10 0	Patent shot	20 10 0
Do. do. for tin-plates, boiler plates, &c., ditto	3 10 0	FOREIGN LEAD.	
Stirling's Patent in Glasgow	2 15 0	Spanish, in bond	16 15-17 5
Toughened Pigs in Wales	3 10-3-15	ENGLISH TIN.	
Staffordshire bars, at the works	5 0-6-0	Block	per cwt. 4 4 0
Rails	5 0-5-2 6	Bar	per cwt. 4 5 0
Chairs (Clyde)	4 0 0	Refined	4 10 0
FOREIGN IRON.		FOREIGN TIN.	
Swedish	11 10-12 0	Banca, H. C.	3 18-4 0
CCND	17 10 0	Strait	3 16-3 18
PSI	17 10 0	TIN-PLATES.	
Goussier	17 10 0	IC Coke	per box 1 5-1 5 6
Archangel	17 10 0	IX Charcoal	1 10-9-11
FOREIGN STEEL.		IX ditto	1 17 0
Swedish keg	14 10-15 0	Plates, warehouse	per ton 14 15 0
Ditto faggot	15 0-15 15	Ditto to arrive	14 15 0
ENGLISH COPPER.		ZINC.	
Sheets, sheathing, & bolts, p. lb.	0 9 1/2	English sheet	per ton 21 0 0
Tough cake	per ton 81 0 0	QUICKSILVER	per lb. 3s. 9d.
Terms.	a, 6 months, or 24 per cent. dis.; b, ditto; c, ditto; d, 6 months, or 3 per cent. dis.; e, 6 months, or 24 per cent. dis.; f, ditto; g, ditto; h, ditto; i, net cash; j, 6 months, or 3 p. c. dis.; m, net cash; n, 3 months, or 1 1/2 p. c. dis.; o, ditto; 12 dis.; p, Cold-blast, free on board in Wales.		

WELSH BARS without change, but little enquired for.

SCOTCH PIGS have been very ready, and a fair business done at our quotation.

LEAD has been rather more enquired for.

TIN.—Since the Dutch Trading Company's declaration that their ensuing sale of tin would consist of 50,306 slabs at Amsterdam, and 50,875 slabs at Rotterdam; total, 101,181 slabs, the market has been firmer, and some transactions have taken place in Banca at 80s., three months prompt; 200 slabs of certified Straits, in public sale to-day, were withdrawn at 84s., being considerably above the value.

TIN-PLATES without change.

SPICES without transaction; this week's market flat, at 14s. 15s.

COPPER moves off steadily.

GLASGOW, JUNE 12.—The very large shipments of Scotch pig-iron during this year, owing to the prevailing low prices, and the facilities now afforded of introducing it into new markets at cheap rates, have caused a large reduction in the stocks here.

The present low price, about 3s. per ton below the *lowest annual average price* of the last seven years, still causes a large demand, and there can be no doubt that Scotch pig-iron is taking the place of English and Welsh to the extent, and the more it is known the better it will be appreciated. A considerable business has been done this week at 39s. 6d. to 40s. per ton, net cash, for mixed Nos. good brands, free on board here. Gartsharr may be quoted at 40s. to 40s. 6d.

MINES.—Peering through the gloom which has of late beset our market there is the encouraging feature of a strong disposition to purchase into solid mines, whether paying dividends or otherwise firmly-established safe concerns. In the former it is difficult to purchase, except at advanced rates, and the business, therefore, is limited; but in the latter considerable transactions have taken place; in many cases at advanced prices—the number of shares so changing hands being larger than usual. As before intimated, the flush of capital emanating from the payment of the July dividends will give a further stimulus to mining share transactions; and, in all probability, capitalists offering at this moment will have no reason to regret their outlay. In the lower grades of mines, absolute inaction prevails.

There has been but little variation in the Metal Market.—The demand for Copper is steady.—Lead is somewhat brisker.—The Dutch Trading Company has advertised a public sale of 111,181 slabs Banca tin, to be held at Amsterdam, on the 5th August, of which 50,875 slabs are lying at Rotterdam, and the rest at Amsterdam; the lots will consist of 1000 slabs each. The direction has at the same time given an assurance that no other tin will be brought to market before the middle of July, 1852, either in Holland by the trading company, or in Java by the factory, and that the shipments from India and China during the same space of time will not exceed 10,000 piculs.—Other metals stationary.

The price of gold in bars (standard) was 3l. 17s. 9d. per oz.; silver in bars ditto, 3s. 0d. per oz.; and new dollars, 4s. 11 1/2d. per oz.

Messrs. Powles Brothers and Co. have sold to the Sheffield Smelting Company 9 cwt. of sulphur and lead and concentrated slags, at 472s. per ton; and to Sims, Williams, Nevill, and Co., 28 cwt. of cupel stuff, at 318s. per ton.

The Mill Pool Mine sold three parcels of black tin—at 47l., 44l. 10s., and 43l. 10s. per ton.

Wheal Mary Ann sold two parcels of lead ore—64 tons at 22l. 1s., and 46 tons at 8l. 4s. 6d. per ton.

Wheal Trescoll sold three parcels of black tin, which realised 50l. 9s. 1d.

A sale of tin from Great Polgoth, raised during the first 24 days of the new company's operations (from the 5th to 30th April), has just taken place, and realised 1190l. 11s. 11d., giving a profit over the working costs of 136l. 19s. 1d.

Merlyn Mines sold 30 tons of lead for May, at 11l. 17s. 6d. per ton, realising 356l. 5s.

Pentire Glaze Mine sold 44 tons of lead ore to the Tamar Smelting Company at 8l. 13s. 6d. per ton on the 7th inst.

The foreign arrivals at Swansea include—from Cuba, 460 tons of copper ore, 280 tons of regulus, and 278 bags of silver ore.

The arrivals in London include—from Hamburg, 50 casks of plumbago; Gottenburg, 3652 bars of iron; Rouen, 90 tons of spelter; Stettin, 9134 plates of spelter; Bremen, 49 cs. 1 cask of old metal; Adelaide, 2188 cakes, 8229 tiles, 3558 ingots of copper, and 2004 bags of copper ore; Trieste, 101 cs. of quicksilver; Coquimbó, 61,207 ingots of copper, 615 bags of argent ore; Gulf of Conchagua, 2 boxes and 164 barrels of silver ore. Gergenti, 260 tons of brimstone; Antwerp, 8 cases of spelter, 32 casks of nails; Seville, 40 tons of lead ore; Singapore, 2374 slabs of tin, and 164 boxes of antimony.

At Liverpool—from Stockholm, 7802 bars of iron; Antwerp, 52 cases, 10 barrels of zinc; Singapore, 61 slabs of tin; Bilbao, 10 cases iron hatchets.

At Hull—from Hamburg, 4204 plates of spelter, and 5 casks of nickel; Rotterdam, 10 casks of manganese, and 12 casks of plumbago; Gottenburg, 1330 bars of iron.

The Great Work accounts for Jan., Feb., and March, showed—Balance from last account, 539l. 5s. 7d.; Ores and materials sold, 3204l. 14s. 10d. = 3747l. 0s. 5d.—Mine cost and merchants' bills, 2470l. 6s. 6d.; dividend of 7l. 10s. per share (892l. 10s.); leaves balance in hand, 384l. 3s. 11d.

At Wheal Seton meeting, on Monday, the accounts for March and April showed—Balance from last account, 243l. 3s. 6d.; ores sold (less dues), 3182l. 11s. 9d. = 3425l. 15s. 3d.—Costs and merchants' bills, 2876l. 0s. 2d.; leaving balance in favour of adventurers, 549l. 15s. 1d.

At South Tolgus bi-monthly meeting, on the 4th inst., the accounts showed—Balance from last account, 111l. 15s. 10d.; received for copper ores sold (less dues), 2121l. 4s. 5d. = 2233l. 0s. 3d.—Mine cost and merchants' bills for March and April, 1505l. 14s.; dividend, 640l.; leaves balance to next account, 87l. 6s. 3d., the profit on the two months being 615l. 10s. 5d.

A dividend of 2l. 10s. per share (640l.) was made. The engine shaft is down to the 66 fm. level, and cross-cuts driving north and south to cut the lodes. The 54 east, on south lode, is nearly under the ore ground in the level above. The 42 east has, during the two months, been driven 11 fathoms, yielding 2 1/2 tons per fm., the end now turning out one. The same level west has, in the like period, been driven through 13 fms. of ore ground, averaging 1 ton per fm., the end now yielding 2 tons per fm. The 32 east has been driven 13 fms., producing 1 ton per fm., now poor. The 32 west, on Youren's lode, has been driven 13 fathoms, producing 1 1/2 ton, and now 2 tons per fathom. These discoveries in the two months are estimated at 730 tons of ore, while only 430 have been taken away. The returns will increase as soon as they have greater facilities for bringing away the ore to surface, and dress up the balvans, which have largely accumulated.

At the annual meeting, held in London, on Tuesday, the accounts for the past year were produced by the managers, Messrs. John Taylor and Sons, as well as supplementary accounts, and a report to the present time. The amount received for ores sold in 1850 (less lords' dues) was 11,449l. 7s. 1d.; the costs were 7905l. 9s. 10d.; leaving a profit of 3543l. 17s. 3d. Six dividends were paid in the year of 2l. 10s. each per share, and amounting in the whole to 3840l. Two dividends have since been made of 2l. 10s. each. The report stated that the quantity of ore discovered in 1850 exceeded by 1400 tons that extracted from the mine, and represented the mine generally as being in a very prosperous condition.

At the Devon Consols North first two-monthly meeting, on Thursday the accounts were examined and passed, showing—Call, 2500l.—By costs to date, 1222l. 15s.; leaving balance in hand, 2377l. 5s. The report stated that the surface operations had been confined to laying open the backs of the lodes, and preparing for sinking the main shaft and the erection of a water-wheel of 50-ft. diameter, for which the water-power is ample. The adit is now being driven on the north lode, and the shaft sunk thereon, for the purpose of communicating with the same; this lode is looking well. On the south lode, the water had been drawn from an old shaft about 5 fms. deep; the lode is 4 ft. wide, with a good wall; it is expected this lode will be intersected at 40 fms. from the surface by the shaft now proposed as the main one; and, being contiguous to the boundary of the Devon Consols sett, the committee have great expectations of finding the lode at that depth good and productive. The balance in hand, it is considered, will adequately work the mine, and provide the necessary machinery for doing so for upwards of 18 months, in which time the lodes may be fully developed, and their mineral resources explored. No call will be required for that period under any circumstances; and it is confidently believed that none will at any time be necessary. Some further authenticated information will be found under Mining Notabilia.

At the Derwent Mines meeting, on the 5th inst., the directors' report stated that all the debts owing the miners and the merchants for supplies had been liquidated, and that they had now reached the nearest approach to cash payments practicable. The returns for 1850 had exceeded the cost by 1414l. 14s. 11d.; and, as far as the current year has proceeded, the produce goes on increasing, as compared with the corresponding period of 1850, and continued increased supplies of ore are expected. The report of Mr. John Taylor, jun., entered at length into the prospects and position of the property, and showed the necessity of raising further capital, for a vigorous and spirited working of this extensive mineral ground. For new machinery and extensive explorations, he estimates an expenditure of 13,600l.; and resolutions were read, which are to be taken into consideration at a special meeting, to be held on the 27th inst., to the effect that it is expedient that 7160 new shares be created at 2l. per share—proprietors to have the option of taking one share for each old share held, with the usual provisions if not taken by them, and that old and new shares shall be consolidated—ten old shares representing one consolidated share; the rate of voting and qualification of directors to be in proportion.

At Bedford United Mines meeting, held on Thursday, the accounts showed—Balance in hand, 413l. 12s. 9d., together with an ore bill for 845l. due next week, which balance of assets being increased (according to estimate made to 20th August, to 1578l. 19s. 7d.), a dividend of 800l. was made, being 4s. per share. The reserve ore on the mine was stated to be from 3500 to 4000 tons, and the discoveries making quite equalled the quantity brought to market, so that the progress making is satisfactory.

At the South Tamar meeting, on Wednesday, the accounts were examined and passed, showing—Balance last account, 690l. 10s. 8d.; ores sold, 1433l. 9s. 2d. = 2123l. 19s. 10d.—By labour cost, March, 752l. 14s. 8d.; ditto April, 736l. 15s. 4d.; discount, 10l. 1s.—leaving balance in favour of mine, 624l. 8s. 10d. The estimated payments to be made before next meeting in August, are—Costs

fore the returns will be proportionately augmented, the average tribute being reduced to 9s. 6d. in 17 for lead only.

The Lelant Consols accounts for Jan., Feb., and March, showed—Balance from last account, 706l. 7s. 8d.; mine cost and merchants' bills, 1552l. 13s. 5d.—2259l. 1s. 1d.—Ores sold, 507l. 19s.; sundries, 53l. 2s. 8d.; Call in March, 1024l.; leaves balance against adventurers, 673l. 19s. 5d. A call of 3l. per share was made.

The Ding Dong accounts for three months ending March show—Mine cost and merchants' bills, 1894l. 5s. 3d.—Ores sold, 1831l. 13s.; sundries, 9l. 9s. 9d.; leaving loss on the three months, 53l. 2s. 6d.

At East Tolgus meeting, on the 4th inst., the accounts showed—Balance last account, 127l. 12s. 5d.; mine cost for March and April, 144l. 10s. 3d.—272l. 2s. 8d.—By third call, 384l.; leaves balance in hand to next account, 111l. 17s. 4d. The progress made in exploring the lodes in the western part of the sett being satisfactory, and such as to warrant the erection of a steam-engine to prosecute them in depth, it was resolved that one should be procured immediately the agents were prepared to fix on the proper place for its erection.

At Tavy Consols meeting, on the 3d inst., the accounts showed—Balance from last account 92l. 1s. 3d.; labour cost for March, 146l. 15s. 9d.; April, 177l. 1s. 2d.; merchants' bills, 314l. 13s. 5d.—730l. 11s. 7d.—By call, 343l. 10s.; March produce, 202l. 0s. 5d.; April, 242l. 9s. 8d.; leaves balance in hand to next account, 57l. 8s. 6d. The cross-cuts north in the 24 and 56 fm. levels have not, as yet, intersected the lode, and a new one has been commenced south in the shallow adit level to cut the main lode, which was very productive under in the 12. The mundic slopes in the back of the 24 continue good, lode from 3 to 6 ft. wide, rich for mundic and ore, and stopping at 45s. per fm. The tribute department continues much as usual, and working at an average of 11s. in 17. May ore sampled at Gawton Quay, 41 tons 6½ cwt.

The North Wheal Robert quarterly meeting, fixed for Thursday, was adjourned until Friday next. The underground report will be found among our Mining Correspondence.

At the Bryntail meeting, on Wednesday, the accounts were examined and passed, showing—Balance last account, 61l. 9s. 3d.; ores sold (less dues), 1678l. 8s. 9d.—1739l. 18s.—By labour cost, 847l. 8s. 9d.; merchants' bills, 201l. 8s. 11d.; carriage of ore, 174l.; agency, 150l.; leaving balance in favour of adventurers, 367l. 0s. 4d.; from which deduct dividend made, 250l.; leaves in hand 117l. 0s. 4d. The dividend was declared payable forthwith; and it was resolved, that in future the account meetings be held every two months. A report from the manager, Mr. Robert Smith, will be found among the mine reports.

At the Bryn-Arian meeting, on Wednesday, the accounts for the two last quarters were examined and passed; the first showing—Labour cost, Dec., 248l. 6s. 4d.; ditto January, 451l. 10s. 11d.; royalty, 17l. 6s. 2d.; management, 31l. 10s.—734l. 13s. 5d.—By balance, last account, 68l. 9s.; call, 600l.; leaving balance against the mine, 80l. 4s. 5d. The last quar is as follows—Balance as above, 80l. 4s. 5d.; labour cost for February, 192l. 0s. 4d.; March, 212l. 12s. 4d.; April, 212l. 11s. 9d.; unpaid calls, 13l. 15s.—711l. 3s. 10d.—By ores sold, 359l. 18s. 7d.; leaving a balance against the mine, 351l. 5s. 3d. A call of 5s. per share was made. Over 25 tons of ore have been shipped; and there are about 18 tons on the mine.

At Wheal Arthur (Calstock) meeting, held on Thursday, the accounts showed—Balance from last account, 2l. 1s. 7d.; calls, 209l. 15s.; ore sold, 17l. 17s. 1d.—229l. 13s. 8d.—By arrears of March cost, 24l. 2s. 9d.; April cost, 66l. 5s. 3d.; May, 80l. 18s. 4d.; office expenses and stationery for two months, 10l. 10s.; sundry payments, 36l. 2s. 6d.—217l. 18s. 10d.; leaving balance in hand to next account, 11l. 14s. 10d., which, with calls to receive, 151l. 10s., makes 163l. 4s. 10d.—less merchants' bills, 22l. 5s.; leaves assets over liabilities, 140l. 19s. 10d. The branch of ore in the winze is 8 inches wide, very good—making down. The ground in the 20 north to cut the south lode underlayer, is as last reported. The 50 is pressing on, in order to cut the south lodes; the end is very wet. There were several kibbles of good ore drawn up on Thursday last, and more are expected in a day or two.

At the East Gurnis Lake meeting, on Thursday, the accounts were examined and passed, showing—Balance last account, 59l. 14s. 6d.; calls, 500l.—559l. 14s. 6d.—By cost-sheet February, 41l. 4s. 4d.; ditto March, 142l. 2s. 9d.; April, 205l. 2s. 5d.; rent, 60l.; agency, 31l. 10s.; sundries, 3l. 7s.; leaving balance in favour of the mine, 69l. 4s. 2d. The estimated cost for the next three months is 500l., and law expenses 50l.—showing balance of payments over receipts of 445l. 15s. 10d. A call of 5s. per share was made, payable on 8th July. Mr. Wolfertan's salary was fixed for the present at 5l. 5s. per month.

The All-y-Crib committee have determined to dispense with certificates, and that shares shall henceforth be transferred in the usual way at the office.

By the East Wheal George report, the mine appears to be progressing satisfactorily; the May ore sampled 22 tons 3 cwt., of good quality.

At West Phoenix Mine, Liskeard, the engine went to work satisfactorily on Monday last, agreeably to appointment, and, notwithstanding incessant rain, a vast concourse of people attended to witness her first attempt. All present concurred in wishing the mine as successful as her rich neighbour, the Phoenix, and of which there remains but little doubt, inasmuch as the lode is the champion lode of the county, and 12 feet wide, and the same lode as the Phoenix. The shaft will commence to be sunk on Monday next.

By the latest information from Cardiganshire, we find most of the mines progressing satisfactorily. At Bwlch Consols, the ore ground is continually increasing, and the returns must naturally soon increase also. At Caegynon, the machinery is at work, and the mine has commenced with a profit of 50l. monthly; the course of ore is excellent, and the levels are extending in profitable ore ground. At Bronfloyd, the levels are full of lead, and the ends opening in masses of ore. Daren goes on steadily, and will be one of the best silver-lead mines in the district. At Cwm Daren, they are raising excellent silver-lead ore and copper from the different bargains; the machinery will be completed in a month, when the returns and profits will be very good.

Mr. Adam Murray's reports on Wheal Augusta, East Balleswidden, and West Wheal Virgin, appear among our Mining Correspondence. Mr. Murray has likewise inspected the Weston Lead Mines, of which he has a highly favourable opinion.

During the week shares have, in the Mining Exchange, changed hands in Wheal Reeth, 87l. 10s. to 90l.; Treviskey, 200l.; Bedford, 7l. 5s.; Alfred Consols, 16l.; Tincroft, 4l. 10s.; Botallack, 205l.; Mary Ann, 59l.; Trelawny, 52l.; Bodmin Consols, 4l.; Butterdon, 7l. 5s.; Craddock Moor, 9l.; East Tamar, 1l.; Garreg, 1l. 5s.; Helvellyn, 25l.; South Tamar, 2l.; West Alfred, 19l.; West Ding Dong, 3l. 10s.; Wheal Arthur, 3l. At Exeter, two shares in Devon Consols have been sold at 308l. each, and in London 14 at 300l.

In Foreign Shares, transactions have taken place in St. John del Rey at 19½; Mexican and South American, 4½; United Mines, 2½; Cobres, 39; National Brazilian, 2½.

From the Alten Mines, the returns at present are small, and produce low. The melting of the snow impedes progress; more favourable results may be expected shortly. The prospects under the 40, at United, continue favourable. At the Old Mine, the middle sink holds out good prospect of remunerative returns. The produce from Mitchell's new lode, though small, is satisfactory.

From Linares, the accounts to end of May are highly favourable. The 55 east has yielded 7 tons per fm.; west, 2 tons. Other parts of the mine, including the tribute department, are progressing well. From the January stock 75 tons was sent off per Helena. The first weekly report of the smelting operations will be found in another column. The lead from the reverberatory furnace is estimated to yield 14 ozs. of silver to the ton, and altogether most beneficial results are calculated upon, resulting from smelting operations. Ore weighed in for the week, 34 tons 2 cwt.; total in stock, 1043 tons, and 17 tons of pig lead.

From the Imperial Brazilian, the accounts continue of a gloomy character; further breakages have occurred, and the poverty of the ground above the 24, from which so much was expected, has caused very great disappointment. Now all the dependence is on the gold holding below, which will be proved as early as practicable. In consequence of the large milliar breaking in two at the bearing, the water rose up to the 14 fm. level; the small one from Thomas's, of 7 in. diameter, has been applied, the weight now being divided equally on the two cranks, and thought likely to stand. The big pump vein has been cut in the 24, but found poor. Blamey's shaft is holed to adit, ground favourable for making rapid progress. From Gongo an increased produce is expected in the ensuing month, Joinville's stamps having gone to work with 12 heads. The cart-road into Santa Rita is completed, and a trial of 20 tons of the stuff by stamping will forthwith be proceeded in. The next arrivals may, therefore, be looked for anxiously by those concerned.

From the National Brazilian the accounts received are as anticipated—highly favourable; the washings obtained being the best for upwards of a twelvemonth, and still on the improving order. From Cuiaba, by next arrival, most important news may be looked for, and an increased produce. For April the returns have altogether risen to mks. 32 0 6 22, one-half of which is from Cocas.

The advices from the St. John del Rey Mines, up to the 28th April show them even more prosperous than those for last month, the returns for March being 29-303 oits., from 7239 tons of ore, and equal to 281-51 lbs. troy, yielding 4-4 oits. per ton, and leaving a clear profit of 4633l. 13s. 6d. from stamps working 117-74 heads, and that for April estimated to yield equally as good results. The reports will be found in another column.

From Santiago de Cuba, we are glad to find the water has been forked out of the 24 fm. level again, though with considerable difficulty, owing to Thompson's shaft being sunk diagonally instead of downright; consequently, the bucket lift had to be dropped three several times instead of once, adding greatly to the expense, and occasioning much of the delay; they have still another 18 feet drop to make to reach the bottom of the shaft before they can resume sinking. The lode in Angelita shaft yields 2 tons of grey ore and green carbonate of copper per fm. At Perseverancia, all the lode stuff is reserved for dressing, and in Taylors shaft, down 2 fms. under the 10, they have good ore. Goldsmith's shaft is suspended, on account of water. Goodhope shaft has been sunk 20 feet in ore, lode average 3 feet wide, the ore part varying from 6 in. to 2 feet, and altogether has yielded 10 tons of ore. The stock of ore on the 30th of April was 340 tons.

By the United Mexican despatches, down to the 28th April, we learn that the buscones' produce and sales are still on the decline. The workings in San Diego and Santa Isabel show that the vein is wide, but the average ley inferior; other parts equally poor, while the contra cielo is of an improved ley. The average number of workmen employed is 70, and the produce of dressed ore to the hacienda is 3050 cargas. At Mina Grande they have five workings in the vein below and beyond the old workings, from whence they are daily expecting a change of a more interesting character. The Easter holidays have contributed to lessen the extraction, and the returns for March are \$22,601 1 7. A protracted drought has been felt, so as to cause them to stop work at the Barrera hacienda. The price of forage continues to advance, and maize is nearly \$5 the farrera.

The following is an extract from a private letter received from Mexico by the last packet:—"The mining interest has suffered here dreadfully of late, for want of water and the frightful high price of fodder. The celebrated mine of La Luz is gradually being worked out, the profits being now inconsiderable. Santa Lucia, the next great mine in the district, has also fallen off, but the mine being comparatively new there is room to hope for large returns of ore. The next three new mines round are showing signs of early and good profits, but they have already cost their owners upwards of \$500,000, without yielding a penny of the working expenses."

By the kindness of a correspondent, we are enabled to give the exports of lead from the south and south-east ports of Spain, from the end of December, 1849, to the same date, 1850:—

Almeria	196,260 quintals, or 8,921 tons English
Adra	320,298 " 14,559 "
Garrucha	31,814 " 1,446 "
Cartagena and Aquilas	327,800 " 14,900 "

Total—876,172 quintals, or 39,826 tons English.
Our correspondent adds—"My opinion as to the present year's exportation is, that it will not reach that of the last; for although the exports since the beginning of the year have been pretty large, yet the mines in the Sierra de Gador are not in a very prosperous state of production at present."

HULL, THURSDAY.—Messrs. T. W. Flint and Co. state that the market for mining shares has been flat since their last report. Heavy shares are not much dealt in, and lighter ones, with the exception of Tremaynes, Gustavus, and St. Aubyn and Grylls, are at present very quiet.

The transactions of the past week in Bank shares comprise:—British North American (50l. paid), 44½; Commercial of London (20l. paid), 18; Provincial of Ireland (25l. paid), 43½; ditto New (10l. paid), 15; Union of Australia (25l. paid), 35; ditto (2l. 10s. paid), 31; Union of London (10l. paid), 12½.

In Dock shares East and West India mark 1l. lower, but other descriptions are unaltered as follows:—Commercial Stock, 84; East and West India, 144; London, 113½; St. Katherine, 77½; Southampton, 15.

Steam-boat shares do not attract quite the usual share of attention, but prices are fairly maintained. General Steam Navigation shares marked 28½; Peninsular and Oriental, 71; ditto New (5l. paid), 10; Royal Mail Steam, 76½.

Miscellaneous shares are quoted as follows in the official list:—Assam Tea Company, 9; Australian Agricultural, 15; Australian Trust, 20; Anglo-Mexican Mint, 25; Canada Company, 47; ditto Five per Cent. Bonds, 95½; Hudson's Bay Stock, 205; Price's Patent Candle Company, 23½; South Australian, 24½; Van Diemen's Land, 1.

There is no particular movement in the market for insurance shares, and prices are unaltered, being quoted as under:—Allianz, 86; Alliance, British and Foreign, 214; ditto Marine, 36½; Anchor, 1½; Atlas, 17½; British Commercial, 7; Church of England, 2½; Clerical, Medical, and General Life, 20; County, 80 ex. div.; Crown, 15; Eagle, 6½; Equity and Law, 5; English and Scottish Law Life, 24; European Life, 12; General, 5½; Globe, 136; Guardian, 56½; Imperial Fire, 245; Imperial Life, 184; Indemnity Marine, 50; Law Life, 2½; Law Life, 45½; Legal and General Life, 44; London, 19; London Ship, 19; Marine, 15½; Medical Invalid and General Life, 24; Monarch, 1 ex. div.; National Loan Fund, 2½; Palladium Life, 2½; Phoenix, 156 ex. div.; Professional Life, 19; Provident Life, 30; Rock Life, 6½; Royal Exchange, 221; Sun Fire, 209; ditto Life, 48; United Kingdom, 4; Victoria Life, 5, 5½.

Shares in the General Reversionary and Investment Society are quoted at 91 to 92; Equitable Reversionary, 109½; Reversionary Interest Society, 100.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending June 7, was 20,370.—Amount of money, £84 9s. 2d.

THE SHARE LIST.

We this week present our readers with what we consider an improved Share List. In the first class we place all those mines that are now making dividends, or have done so during the present working; and by keeping this up regularly, it will not only show the total dividends paid, but the last declared also, which cannot fail of being satisfactory to all concerned. Should there be any errors or omissions, we shall at all times feel grateful to be supplied with corrections, to enable us to make it perfect.

Our second list also is open to communications from those who are prepared to furnish correct particulars, which shall have immediate attention, it being our constant endeavour to quote the price of every transaction in mine shares that comes to us duly authenticated.

MESSRS. POWLES BROTHERS & CO. have Sold to the

Sheffield Smelting Company 9 cwt. of sulphate of lead and concentrated slags, at £472 0 0 per ton. Sime's, Williams, Nevill, and Co. 28 cwt. cupel stuff..... 318 0 0

LEAD ORES

Sold at the Mine, on the 9th of June.

Mine.	Tons.	Price per Ton.	Purchasers.
Wheal Mary Ann	64	£22 1 0	R. Mitchell & Son.
ditto	46	8 4 6	Sime's, Williams, & Co.

Ticketings at the White Horse Hotel, Helywell, on the 12th of June.

Mine.	Tons.	Price per Ton.	Purchasers.
Maesyrwedd (Talargoch)	67½	£11 14 0	Walker, Parker, & Co.
ditto	65½	11 4 0	ditto
Coetia Llys	18	12 5 0	ditto
Hendre	17	10 7 6	ditto
ditto	6	11 0 0	ditto
ditto	4½	10 15 0	ditto
Deep Level (Halkin)	70	10 18 0	ditto
Talacre	30	12 1 0	J. P. Eytton.
Lloc	60	11 13 0	Walker, Parker, & Co.
Merilyn	30	11 17 6	ditto

BLACK TIN

Sold at the Mine, on the 6th of June.

Mine.	Cwt. gr. lbs.	Price per Ton.	Amount.	Purchasers.
Wheal Treseoll	7 0 4	£28 5 0	20 9 9	New Blowing-house.
ditto	9 0 4	81 0 0	22 10 0	ditto
ditto	3 1 6	42 10 0	7 0 4	ditto

Total amount of money, £50 9s. 1d.

Mine.	Tons c. gr. lbs.	Price per Ton.	Amount.	Purchasers.
Mineral Court	0 6 0	15	25 0 0	Carvedras Smelting House
ditto	0 6 0	15	25 0 0	ditto
ditto	0 4 3	4	50 0 0	ditto

Sold at the Mine, on the 16th of June.

Mine.	Tons.	Price per Ton.	Amount.	Purchasers.
Drake Walls	11½	£46 10 0	£534 15 0	Enthoven & Sons.
ditto	6½	38 12 6	251 1 3	Coleman, Dabur, & Williams.

Total amount of money, £785 16s. 3d.

Mine.	Tons c. gr. lbs.	Price per Ton.	Amount.	Purchasers.
Millpool	0 19 1	14	£47 0 0	Boltho & Sons.
ditto	1 5 0	9	44 10 0	ditto
ditto	1 18 1	7	43 10 0	ditto

COPPER ORES.

Sampled May 21, and Sold at Swansea, June 10, 1851.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	104	161	£11 12 0	Cobre	22	22	£14 6 0
ditto	105	161	11 12 0	ditto	51	22	18 10 6
ditto	67	24	18 1 6	ditto	36	22	18 18 6
ditto	63	15	11 14 0	ditto	16	22	18 10 6
ditto	63	24	18 16 0	ditto	6	22	18 10 6
ditto	59	24	18 8 6	ditto	81	24	17 18 0
ditto	59	18	12 19 6	Berehaven	126	10	7 5 0
ditto	110	15	11 8 6	ditto	122	10	7 0 0
ditto	97	15	11 2 6	ditto	102	9	7 5 0
ditto	96	15	11 2 6	Knockmahon	111	9	7 1 6
ditto	44	24	18 10 0	Kapunda	34	44	34 8 0
ditto	37	23	18 6 6	ditto	25	31	24 10 6
ditto	103	14	11 1 0	ditto	12	41	32 10 0
ditto	80	15	11 6 6	ditto	11	52	41 3 6
ditto	76	15	11 6 6	Cuba	65	14	11 7 6
ditto	48	23	17 7 6	Port Lincoln	42	22	17 0 0
ditto	35	23	17 16 6	Gloster Slag	13	28	20 10 6

TOTAL PRODUCE.

Cobre	1429	£20,245 15 0	Cuba	65	£739 7 6
Berehaven	350	2,549 14 0	Port Lincoln	42	714 0 0
Knockmahon	111	785 6 0	Gloster Slag	13	266 16 6
Kapunda	82	2,625 15 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

English Copper Company	Tons.	Amount.
Freeman and Co.	111	£1623 15 0
Grenfell and Sons	261	3036 10 9
Sime's, Williams, and Co.	468	7921 7 6
Vivian and Sons	338	3415 4 0
Williams, Foster, and Co.	425	6508 19 3
Schneider and Co.	147	1723 15 0
Mason and Elkington	51	944 15 6
Low's Patent Copper Company	146	1938 1 0
Total	2092	£27,927 14 6

Copper Ores for Sale 24th June.—Cobre, 94, 90, 73, 68, 56, 7, 5, 102, 100, 67, 15, 6—Berehaven, 127, 126, 80—Knockmahon, 108, 53—Kaw-aw, 58, 50—Waterloo Slag, 54, 10—Aberdovey, 30—Manx, 20, 3.—Total, 1402 tons (21-cwts.)

AVERAGES.

Produce.	Price.	Standard.
British	£ 7 12 0	£95 17 0
Foreign	15 0 6	85 11 6
Sale	£13 7 0	£86 15 6
Totals—British 474; Foreign, 1618 = 2092 tons (21-cwts.)		

AVERAGES OF LAST SALE.

Produce.	Price.	Standard.
British	£ 6 11 0	£96 15 0
Foreign	12 6 6	87 18 6
Sale	£8 15 6	£92 3 0
Totals—British, 1113; Foreign, 666 = 1779 tons (21-cwts.)		

COPPER ORES.

Sampled May 28, and Sold at Andrew's Hotel, Redruth, June 12.

Mines.			Mines.		
	Tons.	Price.		Tons.	Price.
Carn Brea.....	99	£ 3 18 0	Alfred Consols...	55	5 1 0
ditto	94	3 13 6	ditto	36	13 14 0
ditto	85	4 9 0	ditto	25	6 19 0
ditto	78	6 2 0	ditto	24	6 19 0
ditto	71	8 9 6	Polborro	71	2 11 6
ditto	70	5 5 0	ditto	69	2 6 6
ditto	68	10 18 6	ditto	44	3 9 6
ditto	64	1 17 6	Levant	112	1 8 0
ditto	60	8 11 0	ditto	43	9 4 6
ditto	49	9 9 0	West Wh. Treasury	55	7 0 6
Tywarthayle	104	4 12 0	ditto	54	4 18 6
ditto	91	3 11 6	ditto	33	9 19 0
ditto	86	3 10 0	Wheal Agar	45	4 4 6
ditto	59	2 5 6	ditto	38	5 8 6
ditto	44	2 10 6	ditto	32	10 1 0
ditto	42	4 0 0	Wellington Mines.	63	5 2 0
ditto	37	9 9 0	ditto	40	2 17 0
ditto	33	2 11 6	Providence Mines.	39	3 17 6
ditto	25	2 9 6	ditto	32	0 17 0
ditto	11	3 4 6	ditto	31	2 9 0
Nancecuke	89	5 12 6	Botallack	54	5 10 6
Wheal Buller	125	5 12 6	ditto	30	3 0 0
ditto	94	6 18 0	West Wheal Seton.	81	6 4 0
ditto	90	9 5 6	South Wh. Speed.	46	1 8 6
ditto	62	4 18 0	St. Aub. & Grylls.	28	4 3 0
ditto	58	5 2 0	ditto	10	10 13 0
ditto	12	1 12 0	West Alfred Cons.	37	4 3 0
Far Consols	98	5 10 0	Wheal Friendship.	14	3 9 0
ditto	79	9 9 6	South Wh. Fortune	7	3 16 0
ditto	72	10 17 0	ditto	6	3 5 0
ditto	68	6 11 0	East Wh. Treasury	5	2 0 0
Alfred Consols....	66	6 9 0	Wheal Tishdy	5	4 7 0
ditto	57	5 7 0	Spearn Moor.....	4	8 16 6

NOTICES TO CORRESPONDENTS.

THE GREAT EXHIBITION.—In consequence of the lecture-room not being completed, Professor Ansted has been compelled to defer his lecture on iron until Monday next, when the course will be resumed.

GASES FROM THE BLAST-FURNACE.—The mode adopted by the Ebbw Vale Company, at their works in South Wales, for collecting and using the gases from blast-furnaces, was described and illustrated in the *Mining Journal* of the 30th March, 1855.

INSPECTION OF COLLIERIES.—We think with our correspondent ("M. J." Newcastle) that before any agitation is got up on this subject it would be wise to wait until the present inspectors have presented their half-yearly report. That a great change in the legislative enactment must take place, as also a considerable increase in the number of inspectors, or sub-inspectors be appointed, before any real good can be effected, is apparent to all; but we fear more victims will have to be sacrificed, and the public mind still further roused to action, to cause a pressure from without, before the Government will be prevailed upon to bring forward a really useful and efficient system of inspection, one in which it should be imperative on owners to adopt proper means of prevention, and the neglect subject them to real, and not make-believe, penalties.

"W. F." (St. Ives).—The "Cost-book System—its Principles and Practice," was fully described in the *Journal* on the 15th October, 1849. A more elaborate paper is preparing for early publication.

"N. T." (Tregear).—The office of the Dorset Mines Company is in Queen-street-place, Southwark-bridge.

MUSEUM OF ECONOMIC GEOLOGY.—Although the several departments are by no means yet full, the young geologist and mineralogist may spend several consecutive hours in viewing the wonders of the substratum of the earth with which it abounds with much pleasure and edification; and we cannot do better, now it is open gratis to the public three days a week, than recommend to the friends of youth coming to London during the approaching holidays to make a point of their paying at least one or two visits to this museum of Nature, in some of her most beautiful forms. In the entrance hall will be found complete series of specimens of building stones and marbles from Ireland, Derbyshire, the Lizard Point in Cornwall, and Wales. The walls are lined with panels of various-coloured polished British marbles, and the floor is a beautiful mosaic, bordered with polished red granite. Some splendid tazas and statuary adorn this hall in various parts, and there are two extraordinary specimens of polished stalagmitic arragonite, presented by Prince Albert, one of which is cut into a circular table top. On arriving in the great hall, the cases, showing the progress of metallurgy, immediately present the eye. Copper may be seen in its various kinds of ore, its several stages of smelting, up to the production of the pure metal, and in numerous manufactures. Tin, iron, and the various other metals, are all arranged in similar order, and each case is illustrated by specimens of metallic implements, ancient and modern. In the two tiers of galleries will be found a most interesting collection of fossils, those "medals of Nature," arranged according to the geological plan of the various formations to which they belong, commencing with the lower Silurian, and ending with the upper tertiary.

"An Engineer" should read the remarks on the Tubular Bridge, in the *Journal* of the 16th and 23d of March, 1850.

"G. C. S." (Wakefield). complaints of the treatment he has received at the hands of the officials of an adventure: it was his first mining enterprise, and he went to work cautiously—took a 51 share, and paid for it fortnightly instalments; his contract note and certificate were said to be lost or mislaid, when a friend most obligingly transferred over to him one of his own shares. This transfer, he says, he sent to the office, and he cannot get it back, the plea that it is not decided how the company shall be conducted—the shares have been altered from 51 to 17 shares. He hears out of doors that he is entitled to six 12 shares, but can get no satisfactory information, neither can he obtain a copy of the annual report, half a year after the general meeting. Our correspondent is, however, like all the world, coming up to London in 1851, and if he does not succeed in obtaining that information to which, as an adventurer, he is entitled, he intends to "show-up" all the parties, by publishing the correspondence on the subject. We recommend "G. C. S." to call at the office when he arrives: we can assure him of the high respectability of the parties. Our correspondent is evidently not at all at mining matters: the transfer cannot be returned, it forms part of the Cost-book.

A Subscriber.—We always decline giving an opinion on individual mines as an investment; we may, however, in this case say that we believe the six adventures named in the list to be fair speculations; the third and fifth are undoubtedly good mines.

"Mining Investor" (Callington).—We do not think it would be fair or decorous to bring the name of the agent alluded to before the public in our columns, merely because our correspondent was "quite excited one evening" by hearing his hold forth on the subject of mineral veins. Perhaps there may have been some other Cornish causes for excitement; at all events, as our correspondent acknowledges his merits, after a 30 years' acquaintance, from a boy on the floors, through the practice of a pickman and tributor, to become a well-trusted agent, we think he should not withdraw his confidence because he indulges in a few flights of fancy on the formation of mineral veins. We know several "first-rate hands" who fly a good deal higher on this subject than the Cap'n John alluded to.

"An Adventurer" (Camborne).—We shall readily publish the reports, if forwarded to us from the mine or the office for that purpose: we make no charge.

"R. P." (Zeamonachorum).—We always decline recommending any particular mines for purchase or investment, and also to name any particular broker. There are respectable parties in Exeter and London who will, no doubt, honestly advise on the subject. Under the circumstances of our correspondent, however, we should first endeavour to make ourselves a little more acquainted with the subject than he appears to be, before we risked the investment of capital in what must over be a fluctuating stock.

STANAGWYN MINE.—We have received a communication from the writer of the paragraph respecting this mine, in which Mr. Bodemer's name was used: it appears that the parties interested have met, and now consider themselves justified in alluding to that gentleman as having expressed a high opinion of the mine, he having congratulated several on being shareholders, and shown some specimens of the ore which he had collected, and intended having examined by Mr. Henwood, but which, it appears, was not done. The writer and his friends have no wish to put Mr. Bodemer to the inconvenience of further explanations, considering it possible that, "as a foreigner, with no great proficiency in our language, may have used words, then or now, in other than their ordinary signification, and so may have been misunderstood, or have misunderstood the effect of his expressions."

"G. C. S." (Wakefield).—We do not think any good would result from the publication of our correspondent's remarks on the Mining Exchange. It is, at all events, a step in the right direction; and although at present, like all young institutions, capable of amendment, time must be given for its arrival at maturity.

"B. W. J." (The Invention) has been already described in our *Journal*: apply to Mr. F. W. Campin, patent agent, 156, Strand, who will forward the particulars required.

"Enquirer" (Perranabuloe).—A right derived under lease to work for and obtain minerals, is accompanied by a right to operate at surface to an extent necessary for the proper working such minerals—due care being always observed that no injury to the rights and property of others be inflicted; and respecting coal mines, it has been settled in the case of Earl of Cardigan v. Armistead, that the incidental power to the right to dig coals would warrant nothing but what was strictly necessary for the proper working of such coals. It would allow no further use at surface, no undue deposit on it, no attendance of unnecessary persons; and it was even doubted if coals could be deposited for sale, or buyers introduced to view what they were going to purchase. In taking a mineral lease, therefore, it is necessary to see that all such protective clauses are inserted as will secure all necessary rights for the raising and selling the produce.

VENTILATION OF COAL MINES.—"J. S.," writing on this subject, says that in Scotland the pits are generally 13 feet by 5 feet, which is divided into two—one being 8 feet by 5 feet, and the other 5 feet by 5 feet, the smallest being used for the upcast shaft and also for drawing; and when the cage is ascending and descending, the current of air is completely arrested in its course; the waste never gets ventilated, but shut up, and allowed to become reservoirs of fire-damp or carbonic acid. He states that the only mode of artificial ventilation is what is termed a cube, or fire-lamp, in the shaft, with a door in it, to prevent the foul air passing through the flame.

BAT HOUSES.—In the report of this mine, in last week's *Journal*, "Cornish's lode" should be "the Cornish lode;" and "driving north, in the 48 cross-cut," should read "driving north, at the level of the 48 cross cut."

A. M." (Au Vigan).—Our "Glossary of English and Foreign Mining and Smelting Terms" had better be obtained through a neighbouring bookseller—the price is 2s.

"H. B." (Dublin).—A letter addressed to our office, will be forwarded to Mr. Evan Hopkins, who is at present inspecting mines in Devon and Cornwall.

MINERALS FROM CLONMORE.—In our notice, in last week's *Journal*, of the minerals found on the estates of Mr. Phillips and Viscount Dillon, for "coppersmith's forge," read "common smith's forge."

"Enquirer" (Hull).—The submarine telegraph experiment took place on the 28th of August last, when communications from England to France were printed, which are now in the possession of Louis Napoleon. The wire was 35 miles in length, measuring, with its covering of gutta serena, only half-an-inch in diameter. Mr. Little's improved electro-telegraphic instruments were described and illustrated in the *Journal* on the 19th of April last.

"G. S. B." (Leicester-square).—Mr. Fenden Warr's lectures on Metallic Chemistry, at the S. B. James's Polytechnic Institution, are postponed until the 23d inst., on account of indisposition.

"W. R." (Glasgow) had better address a letter to Mr. M. K. Knight, secretary to the West Middlesex Water-Works, New-road, London: we will insert a description of his invention, should he wish to publish it.

We have not received the Wheel May report this week.

•• We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

•• It is particularly requested that all communications may be addressed—
To the Editor,
Mining Journal Office,
95, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, acting for the proprietors

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JUNE 14, 1851.

The *MINING JOURNAL* is published at about Eleven o'clock on Saturday morning, at the office, 95, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

A considerable amount of dissatisfaction on the part of some of the ironfounders and manufacturers of Dublin has been engendered by the directors of the Dublin and Kingston Railway having employed Messrs. FAIRBAIRN, of Manchester, to construct a wrought-iron bridge of 60 ft. span, for carrying the railway over the Dodder river. A memorial addressed to the Irish public on the subject has been published in the *Advertiser*, and as we cannot be aware of all

the circumstances connected with the transaction, or the grounds on which the directors chose a high tender out of Ireland, in preference to a low one on the spot for the same article, we can only give an outline of the *ex parte* statement as put forward by the complainants, the directors, doubtless, being in a position to explain the whole proceeding to the public satisfaction. The document alluded to is signed by F. BARRINGTON (Ring's-end Iron-Works), COURTNEY & STEPHENS (Black-hall-place), the Irish Engineering Company (Seville-place), JOHN and ROBERT MALLETT (Victoria Foundry, Dublin), M'Coy and GRUNDON (Drogheda Iron-Works), W. ROBINSON (Phoenix Iron-Works), and R. TURNER (Hammersmith Works), and protests against the unjust and unfair decision lately made by the directors upon the designs and tenders for the bridge over the Dodder. They state that Messrs. FAIRBAIRN had had the subject under consideration for more than a month; while the circular gave the Irish engineers just ten days to prepare their designs and tenders. That Messrs. MALLETT submitted a two-fold tender—first, for the construction of the superstructure of the bridge in accordance with their own design, and with their own peculiar form of girder; and, secondly, on the plan of FAIRBAIRN's box girders, as licensed under his patent; both being accompanied by a voluntary undertaking to keep the bridge in repair for 12 months. They say they have reason to believe that one of these was approved of by the company's engineer, and that a model of it struck every member of the board with admiration. Both their tenders were lower in amount than those of any other party, and much lower than FAIRBAIRN's, which was accepted in the absence of the engineer and of Mr. PIM, the secretary. They fulfilled all the conditions in the circular, were one-eighth lower than Messrs. FAIRBAIRN; security for their proper construction in proper time was ready to be given, and yet they were rejected. The protest animadverts at considerable length on this result, and observes that, while such a bias exists towards imported commodities, against home ability and industry, the country can never be anything but what it is—a poor one.

In another column will be found an interesting paper on the progress of improvements in the beautiful art of electro-metallurgy, which will be perused with considerable interest by our readers. The fact there shown that Messrs. ELKINGTON and MASON have improved Mr. WOOLRICHE's invention so much that a magneto-electric machine after his plan does now the same duty in one-fourth of the time as before was done with a great number of large galvanic batteries, is an interesting and most important proof of the great steps with which the application of electricity is progressing; as it shows that quantity of electricity, as well as intensity, may be produced by the dry battery only by revolving the armature. Messrs. ELKINGTON produce the motion by means of a belt, moved by a steam-engine, which is used for other purposes; but while Mr. NOLLER's machine only requires the power of a man to work his armature, Mr. HINLEY's beautiful magneto-electric arrangement shows best how little power is required to move the armatures, and, at the same time, what power a permanent magnet may obtain. It has long been said that the expenses of working galvanic batteries, and the want of constancy in their action, would prevent the application of electro-magnetism as a motive-power, but these obstacles are now entirely removed; and we leave, therefore, to our scientific readers to judge from those facts which we have pointed out, as well in the present as several previous Numbers of our *Journal*, what may be expected.

In recording an explosion at Byer's Green Colliery, in our last *Journal*, in which a son of Mr. JOHN ROBSON, of Whitwell Grange, aged 19, lost his life, our correspondent had been misinformed, and misled us as to the occupation of the deceased. We stated that he was resident viewer of the colliery, and animadverted strongly on the appointment of a mere youth to so responsible a situation. We find, however, such was not the case. The colliery was under the entire superintendence of the under viewer, Mr. JOHN DAKERS, one of the parties who accompanied deceased when the accident took place, and who had taken a naked light into the same part of the workings on the previous Friday. Mr. WILLIAM HENRY ROBSON, the deceased, was at Byer's Green Colliery for practical experience and study, to qualify him as colliery viewer at a future period. The case was fully investigated before the coroner. The Government Inspector, Mr. M. DUNN, was present, and the jury returned a unanimous verdict of "Accidental Death." We are happy to find we were in error, and with much satisfaction record this explanation.

The late fatal accident which occurred on the Lewes branch of the London, Brighton, and South Coast Railway, has created a greater sensation among the travelling world than any other casualty of the kind which has recently taken place, and brings most strikingly to the mind the simple but astounding fact, that under no aggregation of the most favourable circumstances can the traveller by rail congratulate himself with the idea that he shall reach his journey's end in safety. To all appearance, at starting, no one could by possibility have conceived how an accident could happen; every precaution had been taken by directors and officials in the general regulations; the line was in perfect order, the train a small one, with but seven or eight passengers, the engine-driver well acquainted with every inch of the road, and the time mid-day; and yet, ere half the journey is complete, five souls are hurried into eternity, and numerous survivors left to mourn the unfortunate event. Had there been 100 passengers in the train, the accident would still have happened, and who could imagine the awful destruction of human life which then must have taken place, and the undoubted distress which must have followed to the survivors; for although we have an establishment by which the blessings of life assurance are applied to railway travelling, we regret to say the Brighton Company, from some unaccountable reason, or for no reason at all, refuse to allow the issue of the tickets of the RAILWAY PASSENGERS' ASSURANCE COMPANY at any of their stations.

The advantages held out by this company are such as the poorest traveller can avail himself of, and nearly every railway company in the kingdom has adopted measures at their stations to enable him to do so. It is a subject of much importance, and it is but justice to those companies who second these efforts to soften the affliction caused by such catastrophes, to point out the fact, that the London and South-Western, the South-Eastern, and the London and Brighton, are the only companies who refuse to make arrangements for the issue of the tickets of the Railway Passengers' Assurance Company. While it is an undoubted statistical fact that accidents by rail, compared with the numbers who travel, are infinitely less in proportion than by former means of conveyance, accidents will happen; and, with such economic means at hand for securing some provision in case of death or injury, it is but mere justice that every company should give facilities for taking advantage of the benefit.

A question of considerable importance, not only to the colonists themselves, but to the iron trade at home, is beginning to press upon the consideration of the inhabitants of South Australia. Considering the great abundance of rich iron ore in various parts of the colony, easily accessible—actually lying on, or obtained close to, the surface of the land—the idea has very naturally been raised and promulgated that means may be found for their economical reduction on the spot, and thus not only render South Australia independent of other countries for her iron, but eventually enable her to become an exporting country herself. Previously, however, to bringing before the Adelaide public a proposition for the formation of a joint-stock company for the manufacture of iron in the colony, it has been thought desirable that a full and efficient trial should be made on a moderate but sufficiently large scale to test the practicability of converting the ore into pig-iron—to furnish accurate data of the actual cost of the process—to prove the quality of this pig-iron as to its capabilities for general purposes, and its usefulness as a forge material. The spot selected as most advantageous for this experimental purpose is near the Montacute and Adelaide Mines, on the Sixth Creek, about 11 miles from Adelaide, where there is an abundance of wood for charcoal, water-power, and large

quantities of rich hematitic and poorer clay iron ores, limestone, and other requisites. From the most careful calculations which have been made, it appears that a sum of 300l. will be amply sufficient to erect a moderate-sized blast-furnace with appliances, by which accurately to prove the cost of the iron produced on a large scale, and this sum it is proposed to raise by public subscription. We can see no reason why the experiment should not answer equal to the wishes of the most sanguine; but there is a bar to this portion of Australia at present becoming an iron-producing country, simply in the absence of coal nearer than Sydney, 700 or 800 miles off to the north; or New Zealand, still farther to the east. In all mineral countries the most dense and thickly studded forests have disappeared before the progress of the blast-furnace; and as South Australia is far from being remarkable for large tracts of forest land, whatever success attends the introduction of the iron manufacture, it appears to us it will, under all the circumstances, be but transitory.

Another subject connected with the mineral produce of the colony has also been under serious consideration—the establishment of rolling-mills, for the conversion of copper into sheets, for sheathing, domestic, and manufacturing purposes—it being much regretted by parties interested in the Burra Burra, and other copper mines, that, notwithstanding the success which has attended their smelting operations, and the acknowledged excellence of their metal, and its purity, they are obliged to witness its exportation in pigs and cakes, while its conversion into sheet would secure for it a market, at least throughout the eastern world. There can be little doubt but that this branch of manufacture would prove successful, and add greatly to the resources of the colony, the energies of the inhabitants of which, it is gratifying to find, are turned in the right direction to secure its future prosperity, independence, and happiness.

We have inserted in another column a communication from Mr. FOTHERGILL, the managing partner of the Aberdare Iron-Works, recently brought before the public in so unenviable a position, relative to their payment of the workmen in goods instead of money, and thus carrying out the truck system in its most degrading and despotic form. In thus giving publicity to Mr. FOTHERGILL's explanations, we cannot admit that he has brought forward a single argument, or established an isolated fact, to justify the system adopted, or to show in the most remote degree that the firm were not all along fully aware that they were infringing the law, and that they were supporting a system of compulsory purchase degrading to the character of the men, and of espionage on their movements totally at variance with all that is held dear in this country under the term liberty. Whatever terms we may have used in our remarks on this case and the truck system generally, and however severe some observations may have appeared, they have been levelled at the system, and not at individuals. And while we are willing to insert Mr. FOTHERGILL's statement, we must take the liberty to observe, that we believe the prosecution to have been got up, not by a combination of shopkeepers, but by a party widely disseminated, proceeding on totally disinterested grounds, in a pecuniary point of view, but who are determined to see the abolition of the accursed system complete, not only in Wales, but in every corner of the United Kingdom.

We are happy now to congratulate the working men of the Aberdare Company on their emancipation from the thralldom to which they have been subjected. On the evidence being tendered against Messrs. FOTHERGILL, in the Aberdare Police Court, on the four informations filed against them, Mr. EDWARDS, for the company, stated that the firm, convinced of their error, had determined on giving up the truck system, paying the men in cash, and allow them to purchase their goods either at Mr. LAWRENCE's shop, or at any other in the town, and the company agreed to pay all costs. The four informations were immediately withdrawn, but 40 others remain on the books as a guarantee of good faith.

This is as it should be; and Messrs. FOTHERGILL, while they have done themselves infinite credit in acknowledging they were in the wrong, in casting a pernicious system to the winds, and adopting a righteous one, will, we trust, hereafter, be as much respected in their public capacity as they have hitherto been esteemed in private circles. The example is a good one, and will strike at the root of the evil, spread as it is over many parts of the United Kingdom.

It is with the most sincere regret we learn that our talented and instructive correspondent, Dr. JOHN MURRAY, has for some time been lingering under severe and dangerous illness at Stranraer, N.B., and that he is at present almost a helpless invalid, in a sad state of prostration, both of body and mind; the latter, we are sorry to say, increased by his inability to bear the least exertion, and the consequent unsatisfactory position of his pecuniary affairs. Such announcement on our part, we can conceive, must be most painful to a sensitive mind; but we think, under present circumstances, it would be false delicacy to withhold the true facts of the case, and most happy shall we be if such brief notice brings in the aid of the wealthy and benevolent in this emergency. The sphere of Dr. MURRAY's utility is large. He has devoted the greater portion of his life in the arduous pursuit of science, and in an almost unexampled earnestness to devising schemes for the safety and welfare of his fellow-creatures, without, we regret to add, any corresponding reward. Shipwreck, the coal mine, the thunder-storm, have been investigated by him with zeal, and means adopted for the safeguard of human life. He has published nearly 30 works on various subjects of art and science, and his inventions practically brought into use amount to about 20. We sincerely trust that, though a severe, the present may prove but a transitory illness, and that many years may yet be spared to him in health and comparative comfort and happiness.

QUARRYING GRANITE IN SCOTLAND.—The granite found at Redhall, about one mile from Edinburgh, and at a place called Binney, about 10 miles distant, is remarkable for its fine grain and durable quality; and to which the majority of the buildings in the City are indebted for their beautiful appearance. Specimens of this granite may be seen in the Exhibition, particularly one fine one forming a colossal figure of Wallace, by Ritchie. The mode of loosening the blocks from the solid beds is by blasting; and Mr. Gowan, the proprietor of an extensive quarry at Redhall, and also one at Binney, has been at great expense laying open the lower rocks, and in improvements in machinery for boring, blasting, raising, dressing, and shipping the various masses when detached. The bore holes are made 26 feet deep, by 5 inches in diameter, by which a large charge of powder can be introduced, and large masses of rock loosened from their bed without the shattering effect of smaller blasts. There is a crane capable of lifting 50 tons for raising the blocks to surface, when a travelling crab takes them up, and conveys them to the dressing-floors, where they are squared and partially worked to a face, and by means of a railroad and another crane are shipped into barges. To the boring machine now employed by Mr. Gowan, a horizontal circular movement is given as well as a vertical fall, which prevents the chisel always pitching on the same point of the stone in the hole. The drills are from 20 ft. to 30 ft. long, 2 inches in diameter, terminating in a Z-shaped chisel; it is worked by winch, handle, and fly-wheel, there being a cnm on the shaft, armed with friction rollers, which lifts the borer by catching on to a collar attached to it, which collar is movable as the drill sinks deeper into the rock. There is also a smaller winch with rope and pulleys to hold up the borer, while the men are slugging out the hole. The machine is mounted on wheels when necessary, for the purpose of transport.

AURIFEROUS QUARTZ FROM CALIFORNIA.—We have, during the week, inspected some gold-bearing quartz, from the Aqua Fria Mine, situate on the Aqua Fria River, in the Mirapossa district, which certainly for general richness in the precious metal exceeds everything of the kind we have before seen; and if the generality of the vein in depth equals these specimens, the parties who possess this sett have certainly a fine prospect of success. A large quantity of the auriferous quartz from the mine is now in London and America—in both of which places it has been simply tested, and found most extraordinarily productive. We observed three masses of gold, the product of samples sent for assay to the Bank of England—one of which gave 156l. 15s. 11d. worth of metal from 10 lbs. 7 ozs. 4 dwts. of quartz; another, chosen as a picked specimen for richness, 100l. 7s. 10d. worth from 3 lbs. 3 ozs. 2 dwts.; and from a very poor piece of quartz, weighing 10 lbs. 6 ozs. 16 dwts., in which no gold could be seen, 15l. 10s. 10d. were obtained. This quartz vein crops out on the slope of the mountain, and is observable for 600 feet in length, with an average width of 4½ feet. Some of the specimens we have seen have been taken from the very outcrop of the rock

at surface, worn and disintegrated by atmospheric action, and the gold left protruding in masses of all shapes and sizes; others, again, are broken from below, and show the gold as it exists in the quartz *in situ*. The vein underlays at an angle of about 45°; and, in addition to its crystalline texture, it appears to lie in a kind of stratification, with fine veins of clayey matter interspersed. We understand that it is the intention of Messrs. Palmer, Cook, and Co., the proprietors of this mine, to form a company, represented by some of the most honourable men in this country, to work this deposit by English capital, in connection with the Americans; and as far as appearances go, there can be little doubt of the result, provided the enterprise be well conducted, and carried out in good faith. There are large quantities of the matrix, in masses of all sizes, up to 50 or 60 lbs. in weight, exceedingly rich in gold, to be seen, and no deception; and the necessary measure to be adopted is the most economical mode for its abstraction.

COALS FOR STEAM NAVIGATION PURPOSES.—We are informed that Messrs. Davey, Pegg, and Co., of Old Barge House Wharf, Blackfriars, have recently become the owners of the Birchgrove Graigola Colliery, producing a coal so well known for its excellence for steam purposes, and its entire freedom from black smoke. The colliery is situated 4½ miles north-north-west of Swansea; the present depth is 62 fathoms—the seam being 6 ft. thick, with an inclination to the north of 4½ in. to the yard; the overlying strata being composed of a hard black stone. The vein is worked by pillar and stall; the coal presents a brilliant irregular fracture when broken; and many portions possess that peculiar radiated appearance so often observed in other varieties from the same district. Scarcely any white shale can be detected; but there are spots of iron pyrites. During the experiments of Sir H. T. De la Beche and Dr. Lyon Playfair, to which we have before called attention, it was found to light with tolerable ease, producing a good clear fire, with little smoke. When first thrown on the fire, it burns with scintillations, gets up the steam rapidly, and keeps up a regular heat. Its evaporative power is represented as 9.22 lbs. of water, evaporated from 212° Fahr. by 1 lb. of coal. A cubic foot weighs 51 lbs.; and a ton as fit for fuel occupies 44 cubic feet. Its specific gravity is 1.360; and its component parts are—Carbon, 84.25; hydrogen, 4.15; nitrogen, .73; sulphur, .86; oxygen, 5.58; ash, 4.43. In conversion into coke, it leaves the large proportion of 85.1 per cent. of a highly carbonaceous fuel, giving intense heat. Messrs. Davey, Pegg, and Co. have numerous testimonials from proprietors of steam-engines, in which the character above given of these coals is fully borne out, the quality stated to be most excellent for steam purposes, perfectly free from smoke, and leaving no clinker whatever on the fire-bars.

MINING IN IRELAND.—Among the numerous industrial resources that the sister island possesses, and which have never been adequately developed, one of the most important is her mineral deposits. In many cases mines have been opened and worked successfully for a considerable period, but with the usual characteristic improvidence of the Celtic race, in times of prosperity no reserve fund was provided for adverse days. According to Sir Robert Kane, the copper deposits of the south of Ireland possess great capabilities, and if properly worked give the most encouraging hopes of a remunerative profit for the capital invested, but to attain this end it is necessary that they must be scientifically and economically prosecuted. The Killen and Glenawlin Mines were inspected some time by Captain Clemence, and Capt. W. Lean, of Holmshurst, who favourably reported on them. Mundic in large quantities is found on the backs of lodes, yielding about 50 per cent. of sulphur, which finds a ready sale in the market; in extending the level into the cauter lode copper has been out, which gives every prospect of rich returns. The Cosheen Mine was worked some time since without any subscribed capital; according to Sir R. Kane, in 1840 it produced 126 tons of ore, value 11647. 2s.; and in 1843 360 tons, value 26057. 15s. For eight or nine years this mine, which is advantageously situated on the side of a hill at Skull Harbour, returned upwards of 20,000l. In this mine a deep adit level has been driven in just above high-water mark on the course of the principal lode. This adit drains the mine, and ore is carried to the shipping-place by a tram-road. The ores are here in the killen formation, and are principally composed of grey copper ore, bunt-kupfer erz, and malachite, together with peacock ore, of a high percentage. This was abandoned on account of a call being required to drive cross-cuts to parallel lodes which had been previously explored. Owing to the famine and other causes at that period which pressed on the resources of Irish property, this was not responded to, and the mine was, consequently, given up. The Mizen Head Copper Mine, in the same district, has produced specimens averaging upwards of 25 produce. The turf dug in the vicinity of several of these mines is highly impregnated with copper. A party of English adventurers are about to work these valuable lodes; and from the evidence of the practical men who have seen them, and their favourable position, combined with their geological features, give an assurance of success, if they are fairly and honestly explored, with the energy and knowledge which characterises the Anglo-Saxon race. The principle cause of their deterioration hitherto has been the demerit method on which their financial affairs have been conducted by the native proprietors; in other hands they would have prospered, but here they have, unfortunately, realised the trite old axiom heretofore broached in the reign of Queen Elizabeth, that the "Irish never will make anything prosper in Ireland." An idea how mines have been managed in the sister country may be deduced from the fact, that at Ross Island, in Killarney, while abundance of turf might be had for the trouble of cutting it, the proprietors were feeding the steam-engine with English coal, at a cost of 2l. 2s. per ton. *Verbum sat.*

THE GREAT EXHIBITION.—Professor Tennant, of King's College, has commenced delivering a series of lectures on mineralogy and its application to the arts in the lecture-room at Hyde-park. This week the lectures have been on the physical characters of minerals, and silica and its combinations. The ensuing ones will be on "lime and its combinations used for building and other purposes," gems and ornamental stones used in jewellery, and metallic minerals. The whole of the course has previously been reported in detail in various numbers of the *Mining Journal* during the present year and the preceding. One of Professor Tennant's most interesting lectures on the gold of California, was published by us in February, 1849. We have no doubt but that the lectures will be fully attended; and, from the comprehensive and intelligible style adopted by Professor Tennant in his explanations, those practically and professionally unacquainted with the subject on which he treats will have information which may be considered dry and terse in its details, delivered to them in a familiar and pleasing manner, and obtain thereby a good insight into the uses of the mineral products of the earth placed before their view in the Palace. To those more acquainted with the subject, much may be learnt; and patient attention to a lecture thus delivered will materially assist the student in his labours, and lighten his researches in the "arcana of Nature."

MALACHITE IN IRELAND.—At the present time, when so much attention is drawn to the specimens of manufactured malachite in the Russian compartment of the Exhibition, it may not be inapposite here to mention that there are some valuable deposits of this mineral in the south-western part of Ireland, which are sufficiently large, and of such a quality, as to be useful to the lapidary for ornamental purposes. It is seldom, in any place where it has been hitherto discovered, that it is found in slabs exceeding a foot square. The pieces are united so as to render the concentric lines of the stone continuous, and thus massive tablets of 6 or 7 feet in length are found of apparently one solid piece.

EXTENSIVE FAILURE IN THE IRON TRADE.—On Tuesday a meeting of the creditors of Messrs. Finch and Willey, of the Windsor Foundry, Liverpool, was held at the Clarendon Rooms, South John-street. The large room was crowded long before the hour of meeting, which was appointed for one o'clock. At that hour Mr. Wickham, of the Lowmoor Iron Company, was unanimously voted to the chair, and a statement of the accounts, drawn up by Mr. Bewlay, was submitted to the meeting; from which it appeared that the total liabilities of the firm were 65,000l., to meet which it was calculated that the assets from all sources would realise 10s. in the l. Mr. E. Finch stated that 18 months ago, on the retirement of Mr. Smith, who is a creditor for 7000l., there was a loss of 6000l. on the concern, and that the completion of the contracts then on hand had since entailed a further loss of 7000l. The Bank of Liverpool is well secured, as also Mr. Geach, of Birmingham, who had advanced 10,000l. on account of Chepstow-bridge; but the creditors of Finch and Son are also creditors to this estate to upwards of 20,000l. A committee, consisting of Mr. Pearce, of the firm of Jones, Bland, and Co., Mr. Ledward, and Mr. Langton, were appointed to wind up the concern as speedily as possible.

EMIGRATION OF QUARRYMEN.—It is stated that a large number of the best and most experienced of the men employed in the extensive slate quarries in North Wales are preparing, during the course of the ensuing summer, to emigrate to the United States. Numbers have already gone over, and the reason assigned for the departure of these men is the heavy amount of local taxation and the smallness of remuneration for labour. It is stated that the rate of payment in the American quarries is nearly three times greater than the amount which can be realised in the Welch workings. Several instances have recently occurred where men who left their native land deeply involved in debt have been enabled by the excellence of remuneration for their toil to remit the amount of their debts in full, so as to discharge every claim that could be brought against them.

COMPRESSED AIR-ENGINE RAILWAY COMPANY.—Sir Wm. Horne has declared a return of 4s. 9d. per share to be divided amongst the shareholders in this company out of the assets realised.

IMPROVEMENTS IN ELECTRO-METALLURGY.

In no department of the Great Exhibition are the advantages which science confers on art more clearly illustrated than in electro-metallurgy, wherein the agency of the subtle fluid, which, directed by the cunning hand of man, shivers into fragments the sunken rock, also gilds the wing of the butterfly so delicately that the exquisite framework is not hidden by the golden film. To Prof. Jacobi belongs the honour of having discovered this process, but Elkington and Mason were the first who applied it in this country, and hold the valuable patent: other manufacturers who plate by the same process are licensees. The patent was perfected in 1840, and notwithstanding that, in common with nearly every discovery which revolutionises existing practices, it encountered much opposition, it has already become an important branch of industry, and by the facilities it affords for the production of the finest forms and most ornate compositions, it is now, and will still more largely become, an important adjunct to art education. The advantages which plating by the agency of electricity possesses over the older process will be readily understood when it is stated, that until this discovery raised surfaces, and especially high relief, which are cast, could not be produced on articles of plate in any other metal than pure silver. Hence plating was confined to articles having a plain surface, or when applied to ornamental designs, such as a salver, or dish with a raised border, the relieved portion was formed of a thin stamped surface of silver, filled with base metal, and attached to the body of the article. It is evident that a process so limited in its application to ornamental manufacture could never have popularised the use of compositions having any pretension to art beyond beauty of outline. The costliness of silver is necessarily a hindrance to the production, as it is to the use of elaborate works in that metal. The process of electro-gilding, by its comparative inexpensiveness and unlimited application to all purposes to which silver is applicable, is destined to be, as it has to a considerable extent already become, a school of art at the table of every man of even a moderate income. If our readers will glance at any of the centre-pieces in the cases of the Messrs. Elkington, in the south-west gallery, for example, the "crown imperial," or the figures and festoons on the Exhibition vase, they will perceive at once that the truth of the forms and the spirit of the compositions depend upon the relief of the parts, and consequently that there is much of what is called "under-cutting." The floral wreaths on the vase referred to, or the curl of the leaf of the crown imperial, may be taken as familiar illustrations of the term. Such articles could not be produced by the old process; but by the electro system the subtlety of the agent employed in plating carries the particles of decomposed metal to every crevice of the composition, and hence no elaboration of ornament, height of relief, or complication of design presents the slightest difficulty to the electro-plater. Another important advantage is, that, unlike the old process, the electro-plater is not restricted to the use of soft solder, composed principally of lead, which melts at a low temperature, and forms an insufficient joint. The articles made by Messrs. Elkington are soldered with hard silver solder, not affected by any ordinary degree of heat, and forming a joint as strong as the metal itself. The base, or body upon which the pure silver is deposited, is a white metal, approximating to silver in colour and density of structure. These preliminaries being understood, the reader will easily comprehend the process of plating. The troughs in which this goes noiselessly forward are three parts full of a solution consisting of dissolved or decomposed silver, and an alkali called cyanide of potassium. This forms the plating solution. In connection with the solvent, it is a singular fact that, notwithstanding the numerous attempts made to discover a more suitable oxide, no change has been made during the 11 years the system has been in operation. About 20 patents in connection with the process have been obtained, all of which are held by Messrs. Elkington; but none of the discoveries have effected any material alteration in the composition of the solution. The articles to be plated are suspended in the solution by wires in contact with rods connected with the electrical current. Until about 12 months ago the source of electricity was the galvanic battery. The effects of this medium, its unequal power, and the slowness of the process of deposition, were early discovered; and about seven years since a patent was obtained by Mr. Woolrich, of Birmingham, for the substitution of a permanent magnet as the source of electricity. The patent was purchased by Messrs. Elkington, and the plan tried; but from a defect in the construction of the magnet, or in the mode of its application, the current it gave out was deficient both in quantity and intensity, and for a time it was abandoned. The magnitude of the operations of the manufacturers, and the difficulty experienced in getting a sufficient amount of power from the battery, again tempted to further experiments with the magnet; and the result is that the galvanic batteries have been superseded, and a steady, inexpensive, and never-failing current of electricity is evolved from the machine. The importance of uniformity cannot be overrated, as it enables the operator to calculate with precision the quantity of metal deposited in a given time. Of scarcely less importance, where the operations are so extensive as in these works, is the rapidity of the deposition. By the galvanic battery the process of plating occupied about eight hours; the same effect can now be produced by the dry battery in two, with this additional advantage—that the more rapid the deposition, the more hard and firmly is the silver deposited. The machine of Messrs. Elkington has eight series of steel magnets, which are used for other purposes, and is driven by a steam-engine.

Thus, then, we have a correct though non-scientific knowledge of the plating solution and the depositing agent. Now, the article to be plated having been suspended in the liquid, the magnetic current is passed through it, and the result of the action is, that the solution is decomposed, the metal separated from the potash, and gradually deposited on the surface of the article—the thickness of the coating being determined by the duration of the immersion, the quality of the solution, and the strength of the current. In the process of plating the solution, of course, becomes exhausted of the metal. To keep up the supply plates of pure silver are suspended in the liquid, and the silver dissolves as rapidly as the deposition on the articles takes place, atom for atom. For several years the metal so precipitated had a dead or frosted appearance, such as that in the figures of the centre piece called the "National Games," and other figures in these cases, and was subsequently burnished; but by the use of a little bi-sulphuret of carbon in the solution, the after labour is avoided, for the article now leaves the trough with a high degree of polish. Like many other important discoveries this was the result of accident. The bi-sulphuret of carbon was used for giving elasticity to vulcanised India-rubber moulds, and a particle of the substance having mixed with the plating solution, it was observed that the deposit of metal assumed a bright appearance. Hence the important improvement. Such is the process of electro-plating, the gilding being almost similar, with this difference—that in order to expedite the operation, the solution is heated. It is at once evident that such is the command of the operator over the thickness of the coating that the quality of the plated article depends altogether upon the character of the manufacturer, and upon that also depends the permanency of the plating. In the hands of a skilful operator the covering adheres so firmly as to become one body with the metal upon which it is deposited. In the manufactory of Messrs. Elkington, we are informed, the quality of the work is submitted to two or three convincing tests. The frosted figures are annealed after being plated, as in articles made of pure silver, and the plain surface goods, such as salvers, side and vegetable dishes, &c., are submitted to the action of the hammer, 20 men being engaged in the manufactory in the work of hammering alone. If, therefore, there ever is in any electro-plated articles a tendency to skin or peel off, the fault arises from the bad quality of the metal employed, or from the carelessness or incompetence of the operator, not from any defect in the system.

GRATIFYING TESTIMONIAL.—We have pleasure in stating that a numerous body of sub-agents and workmen, employed at Dowlands under the superintendence of Mr. W. R. Davies, late mill manager, have presented him with a handsome breakfast service, value 20 guineas, in token of their sense of the uniform uprightness, impartiality, and kindness, displayed by him during his connection with the Dowlands works. Mr. Davies has left the service of the Dowlands Iron Company to take the management of the Abercane Works, to which position, we may add, he has advanced himself by his industry and intelligence, and Abercane and the neighbourhood generally congratulate themselves upon his appointment.

LOCOMOTIVE FOR COMMON ROADS.—A locomotive, constructed by a journeyman engineer, for travelling on ordinary roads, has arrived at La Villette: it travels, it is said, at the rate of from 26 to 30 leagues an hour, is of simple construction, and consumes little fuel. It came from Picardy, and all along the route the inventor was received with enthusiasm.—*Galignani's Messenger.*

Original Correspondence.

ABERDARE IRON COMPANY—THE TRUCK SYSTEM.

SIR,—I have submitted in silence, for a length of time, to a series of virulent attacks made by an interested body of shopkeepers upon the Aberdare Iron Company and myself; but when you, Sir, upon, I am sure, false information, actually make us the subject of your leading article, and describe our conduct in the terms therein used, I feel it is time to supply you, and in doing so the public, with a simple statement of the real facts of the case. The Aberdare Iron Company have, for some 50 years, been proprietors of certain buildings, used by various tenants as shops; and during the 8 or 10 years previous to 1850 they were let to, and occupied by, a Mr. John Lewis, one of the now members of the shopkeeping combination. He, however, after making a considerable sum of money, thought proper, with the money realised, to erect shops of his own close by, and upon their completion gave up the Aberdare Company's premises. Fresh tenants were then sought for, but they were successively frightened away by the threats of the late tenant. At length a party (Mr. Thomas Jones, of this place) arranged to take them; but he, too, after finally agreeing on terms, was induced to abandon his intention, and begged to be let off.

Mr. John Lewis became now sure of his game, and it was commonly reported he had said the shops should never be let again. I, however, not choosing to submit to this loss of property, arranged with Messrs. Lewis and Lawrence to rent them, on my undertaking to give them all legal and proper protection (the words named in their agreement); but in doing so I bound them to supply their customers with the best and cheapest of goods, and the rent to be a certain per centage on the amount of business done on the premises, for all of which see the evidence given in court on the 16th May. The protection admitted in the neighbouring county to be legal I adopted, and it worked to the manifest advantage of the workmen as well as myself; and amongst other gratifying proofs of it, I was congratulated by the medical man attached to the works, and paid by the men (Dr. Roberts), on the greatly improved condition of the people whom he visited. He found food and comfort where he formerly met with rage and misery. But such a state of things did not suit the shopkeepers of the town, and they set about bribing a collier of notorious character to claim again the money advanced him in the shop, and subsequently to support an information against me under the Truck Act. The magistrate of my immediate district decided against me; and although advised by my counsel, supported by a high legal opinion, that his decision was erroneous, I, nevertheless, bowed to his decision. I paid the fine without its having been even applied for; and in less than three hours Messrs. Lewis and Lawrence commenced supplying their numerous customers with such goods as they required in the ordinary system of shopkeeping. But this was far from satisfying the combination, who aimed at annihilating a rival establishment—indeed, openly asserting it; and they accordingly persevered in their attacks, and attempted to get up a meeting at Treforest, where we have iron-works, and Messrs. Lewis and Lawrence a shop. And I refer you, Sir, to the report of that meeting in the *Swansea Herald*, copied into the *Merthyr Guardian* (both of which papers I beg to send you), in which you will find, although insufficiently conveyed, how signally the objects of the promoters of that meeting failed. The poor workmen, of both our own works and another large work adjoining, had too recently suffered from the exorbitant scale of charges insisted on by the shopkeepers of the place to consent to injure the friends who had rescued them from their clutches, and were serving them well. They filled the room, and with exulting cheers reminded the chairman of his old practices, now, thanks to Messrs. Lewis and Lawrence, no longer practicable. They were taunted with the fact of the price of provisions of all kinds having immediately fallen on the establishment of the new shop, and it was stated by a workman from Mr. Crawshaw's works that formerly he had been actually obliged to purchase his provisions at Merthyr (13 miles off), to avoid the extortion of the Treforest shopkeepers; but now he could buy all he wanted at home, and such was the benefit conferred on the working classes by the new shop, that he hoped Mr. Crawshaw would cause a similar one to be started at his works.

I will not needlessly lengthen my letter by exposing each base and false accusation, so diligently invented and sent abroad by this interested and unscrupulous body. I will only notice the one instance entitled in your paper as indecent and diabolical, where a workman is described as applying for a certain amount of wages due to him for the purpose of burying a child, which was refused him, but goods offered instead. Now, Sir, in the most unqualified manner I assert this to be a base and calumnious falsehood. I have made anxious inquiry into the story; and the only foundation I can discover for such an atrocious statement is that a collier, some four months back, applied at the office for the loan of 30s., for the purpose of burying a child. No wages being due to him, the cashier, in accordance with his invariable custom, on receiving such an application, consulted with the man's immediate master, Mr. John Smith, coal agent, who did not, in his judgment, recommend the man for charitable aid, and he was, therefore, refused the loan; and upon such a foundation has a Minister of the Gospel thought proper to raise the false and shameful accusation. I will now only request your candid attention to the evidence adduced in open court on the 16th May, and even to the words used by the magistrate on his adverse judgment; and I think you will admit we have been somewhat too hastily proclaimed to the country as diabolical despots.

RICHARD FOTHERGILL,

Aberdare Iron-Works, June 11. Managing Partner of the Aberdare and Taff Vale Iron-Works.

ARE "MINING" AND "MINERALS" SYNONYMOUS TERMS, LEGALLY?

SIR,—In the remarks which appeared in last week's *Journal* upon the case of *Micklethwaite v. Winter*, decided in the Court of Exchequer, was not an error made in considering "mining" and "minerals" as synonymous terms? We think here that iron ore is decidedly a mineral, although it is worked as an open quarry, technically called "patching," and is rated in this neighbourhood to the poor rate as an ironstone quarry, although, if worked as an "ironstone mine," it would be clearly exempt.

Merthyr, June 12. A CONSTANT READER.

ARE "MOUTHINGS" ADMISSIBLE IN SHAFTS?

SIR,—Are mouthings admissible in shafts? The Inspector says, Yes, under certain circumstances. An inquiry took place here, on Friday last, at an inquest on the body of a man who was killed by falling from a mouthing at the thick coal to the bottom of the shaft. The jury, at a previous adjournment of the inquest, being of opinion that such a method of working mines was not compatible with a well-regulated colliery, had re-adjourned, for the purpose of receiving further evidence, and, if possible, of availing themselves of the Government Inspector's opinion on the subject. Mr. Southcomb and Mr. Cope had also been requested to examine the colliery. Mr. Dickinson, the inspector, having previously inspected the colliery, read his report to the jury, and which was acquiesced in by the two other practical gentlemen present. The gist of the report set forth that mouthings in shafts, although not numerous in Staffordshire, are far from uncommon in other counties, especially in Lancashire; and though they are always attended with more danger than when there is only one landing, and that one at the bottom of the shaft, still they are so useful, and afford such facilities for working mines, that when used under proper restrictions, and with the addition of a platform, and also of a rail to prevent persons walking into the shafts, the inspector was not prepared to condemn them as inadmissible, even in well-regulated collieries.

In the present instance, however, the upper seam was only ten yards from the surface, and at the request of the jury the proprietor undertook to work it by another shaft.—*AN OLD COLLIER: Darlaston, June 7.*

THE STAFFORDSHIRE MINES' INSPECTOR.

SIR,—Permit me to inform "Thick Coal," in reply to his inquiry, that the district assigned to the inspector of coal mines for Staffordshire comprises the counties of Staffordshire, Shropshire, Worcester, Denbigh, Flint, Anglesea, Cheshire, and Lancashire. It comprises about 1000 collieries—many of which, especially in the latter county, are first-class. The thick coal, or even the whole of the collieries in Staffordshire, consequently form but a small fraction of the number. Mr. Dickenson, the inspector for the district, resides in Manchester.—*M.: June 9.*

THE LOST MINE INSPECTORS.

SIR,—Your Staffordshire correspondent inquires who the inspector of that district is, and where he is to be found?—a question more easily asked than answered. We in South Wales had a glimpse of Mr. Black-

well in December last, but we have heard nothing of him since, and have fancied that he was luxuriating among the thick coal in the midland counties. Where is Mr. Morton? and where, is Mr. Dickinson? Can any of your correspondents tell us what has become of them, and what they are doing? Mr. Dunn appears in earnest, and performs his important duties like one thoroughly alive to the responsibilities he has undertaken. The public are much indebted to him for the temperate zeal he has evinced, and for the brief but very satisfactory explanations he has given in some of the cases he has recently investigated. CYNRO.

June 10.

THE STAFFORDSHIRE MINES' INSPECTOR.

SIR,—“Thick Coal” does not appear aware that the coal seams in South Wales vary in thickness from 2 ft. up to 15 ft.; Mr. Blackwell's thick coal practice will, therefore, not be entirely lost in such a district. The inspector, who has spent the greater part of his life amongst these seams, and in a colliery where little short of 1500 tons of coal per day are produced, may well open his eyes, “half-frightened and bewildered,” at “Thick Coal's” picture of the “vast area” of a colliery “containing some 10 or 12 pillars.” Think (says “Thick Coal”) how pleasant it would be if the inspectors were a little more communicative. It is true they visit the collieries, backed by an Act of Parliament, and compel the owners to show them the whole of their operations, and to produce the plans which have been hitherto guarded with such jealous care, that it might be thought a breach of confidence to discuss such matters weekly in the wide-spread pages of the *Mining Journal*. Such a course might speak volumes in their favour with “Thick Coal,” but would scarcely accord with the feelings of your friend—A. O.: June 11.

EXPLOSION OF FIRE-DAMP IN COAL MINES.

SIR,—My attention having been drawn for a long time to the great sacrifice of human life by the explosion of fire-damp in coal mines, and also from gas where it has accumulated in houses, vaults, &c., I have, after considerable thought and pains, been successful in discovering the means of detecting the same, and indicating their presence, whereby I believe a vast security will result to the lives of miners. My plan is (by an apparatus, simple in itself, yet available to the poor miner) the detection of the escape of gas, and the conveyance of the intelligence to those in the immediate locality, or to any required distance in any mine, and to the top of the shaft, without the agency of electricity.

This being an exceedingly delicate fire, as well as gas detector, when once fixed, will require no further outlay; and a two-fold advantage in houses is obtained by the same instrument.

I shall be happy to see, or call on any scientific gentlemen on the subject, who may be disposed to introduce the invention, after being fully satisfied with its practical utility and benefits. E. H. WILLMOTT.

Cannon-place, Mile-end, June 13.

RAILWAY CONSTRUCTION—PREVENTION OF ACCIDENTS.

SIR,—The dreadful accident which was reported in the *Times* of Monday as having happened on the Brighton and South Coast Railway Company's branch line to Lewes, adds another to the many railway catastrophes which we have so frequently to deplore. Accompanied as it was with such truly appalling scenes of sudden and agonising deaths, the details in themselves are too shocking to be dwelt upon; but the vivid representation which must have been pictured to the imagination of every one who perused the detailed recital of facts, as given in the daily journals, should lead men to consider the question attentively, as one of vital interest, in which they are deeply concerned, with a view to prevent in future such reiterated and wholesale sacrifices of human life.

It is, in my opinion, useless to attach blame to careless officials, and, after making an example of them, remain satisfied until the recurrence of a similar misfortune startles us anew with the consciousness of our hairbreadth escapes, and, I might almost add, foolhardy adventures.

The public should inquire into the first principles of railway construction; and if they did so, they would become painfully aware of the slight tenure of existence on which railway travellers are dependent under the present system. They would, indeed, soon discover that a large proportion of the accidents which now-a-days stain with blood the annals of human misfortune may be attributed not to the carelessness of railway functionaries, nor to the want of proper precautionary regulations on the part of railway companies, but to a defect inherent in the system of railway conveyance, which jeopardises the lives of tens of thousands, and makes me wonder—not at the number of accidents that fill us so constantly with dismay, but at the thousand and one escapes which, by a providential and almost miraculous chance, have saved millions from being suddenly launched into eternity, or from dragging on, for the rest of their natural lives, a maimed and miserable existence; and I venture to say that the sword suspended above the head of Damocles by a single hair was almost a guarantee of security and immunity from personal injury, when compared with the all but certainty of danger which men are now daily exposed to in the ramifications of railroads throughout the world. I have long been of opinion, and repeated accidents have confirmed my views, that the flange cast on the wheels of railway carriages is not by any means sufficient to prevent the trains from running off the rails, especially on inclined planes and on curves, where the tendency of the vehicles to leave the rails requires to be continually opposed in a more effectual manner than has yet been done.

With a view to remedy this evil, I have given particular attention to the subject. It always seemed to me, and the idea has struck other engineers, that the plan of forming the flange on the rail itself was a greater security against accidents of this nature than the method now generally in use of placing it on the wheels, the change in the original form of rails was not adopted from any absolute objection to the flange, but from a certain disadvantage attendant upon its position—that it retained dust and other extraneous substances on the rail, by forming an angle with it, and thus a coating was gradually accumulated, which in the course of time increased the friction, and took from the railroad so constructed the chief advantage it was intended to have possessed, in presenting to the wheels passing over it a comparatively even surface, so as to diminish, as much as possible, the amount of friction which renders the traction so difficult on our common roads. I have, therefore, devised a combination of the original flange rail with that now usually employed, by means of a new form of chair, so as to gain all the advantages of the old system, without any of its defects; and in this way, I place, as it were, a continued wall on each side of the train, which would prove an insurmountable barrier to the deviation of the carriages, even if they were going at their maximum rate of speed. The proposed flange may be made to reach nearly to the height of the axle, over which it would be impossible for any carriage to escape, and by its being entirely independent of the rail, and only supported at intervals on the chairs, can in no way favour the increase of friction. This would not supersede the flange on the wheel, as it is merely introduced to give greater security to the present system. With a view to public safety, this plan should be adopted on all portions of a railroad where danger may be apprehended, such as on high embankments, on all bridges and viaducts (instead of parapet walls, which would not then be required), in cases where a lake, river, or ravine is in close proximity to the line, &c. A description and drawings illustrative of the above plan will be found in the Crystal Palace in Hyde-park, together with other improvements which I propose in railway matters.

London, June 12.

WILLIAM HENRY VILLIERS SANKEY, C.E.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE will commence its meeting at Ipswich, on Wednesday, July 2, under the presidency of the Astronomer Royal. We are requested to state that previous announcements of the occurrence of the meeting at an earlier period are incorrect.

NATURAL CURIOSITY.—At the meeting of the Geological and Polytechnic Society, on the 5th inst., a very remarkable stone was exhibited. It was an ordinary slab of grit-stone, about 2 ft. long and 1 ft. high, found very recently in a quarry at Oughtibridge, and sent down to Mr. Ald. Dunn, the chairman of the meeting. The peculiarity of it was that one side presented the entire features of a landscape—trees, water, and rocky foreground, gracefully and effectively disposed. The appearance was dim, but not in so great a degree as to call forth any effort of the imagination to supply defects. That the picture was a genuine production of that greatest of artists, Nature, none of the savants to whose inspection and criticism it was submitted saw any reason to doubt. Mr. H. C. Sorby stated that in his geological researches he had met with several specimens of the same kind of curiosity, particularly in limestones, but none so remarkable as the one now exhibited.—*Sheffield Times*.

MANUFACTURE OF AMERICAN NEEDLES.—The only needle manufactory in the United States is that established at Newark, by Mr. Henry Essex, who was formerly employed by Hemmings and Son, in England. The wire of which the needles are manufactured is imported from England, as none of the requisite quality is made in this country.—*New York Post*.

MINING IN CORNWALL AND DEVON.

BY CAPT. CHARLES THOMAS, OF DOLCOATH MINE, CAMBORNE.*

[Concluded from last week's *Mining Journal*.]

No tin mine, yielding a profit, has hitherto been found except in what I shall call secondary granite, or in compact clay-slate (killas), connected or unconnected with elvan. This kind of granite, which I distinguish as secondary granite, is generally coarse-grained, jointy, and the fracture so irregular that it would be difficult to get a common post of any length out of it. It varies in colour, and is either very white, dark, or reddish; it also varies considerably in hardness, but may always be distinguished from the primitive granite by its very uneven fracture. Copper ores are much more extensively diffused, and good mines of this metal have been found in secondary granite, compact clay-slate (killas), of various colours when granular, and containing a large portion of quartz, and in greenstone (ironstone). Lodes in dark coloured killas are most productive when above, or passing through, elvan courses; below the elvan they are seldom rich, unless another elvan course, or granite, be situated below it still. The muddy white killas, and the blue and black killas, containing a small portion of quartz unconnected with elvan, or granite, may furnish good specimens of ore, but no mine yielding a profit has been found in them. No copper mine is found in shelving, roofing, or paving slate. Lead, in large quantities, is found in comparatively soft blue, dark, or light clay-slate. In strata yielding tin and copper small quantities of lead are sometimes found, but never sufficient to pay for working.

Secondly, the character, size, and composition of the lode. Long experience in this department of mining seems absolutely requisite. The experienced eye, at a single glance, judges more accurately than an inexperienced person can do after the most laboured investigation and analysis. A good gossan, of a fair size, the old guide of the miner, is an excellent one, and almost a certain one for ores not far below the surface. The ores, however, are not always found immediately below the gossan, but sometimes at a good distance east or west of it. In commencing a mine, therefore, gossan is one of the best guides a miner can follow; but at greater depths other guides will be wanted, as vast quantities of ore are found there with but little gossan near the surface. I beg to caution the young miner, here, against a deception very common in our day, of calling almost every substance of a reddish colour, found in the backs of lodes, gossan. The present race of young miners have had comparatively little to do with the backs of lodes; and although gossan still retains its high character as a guide to a rich mine, very few of them really know what gossan is—verbal description will convey but little information on this matter. My advice to you is, to collect specimens yourselves from the backs of our rich lodes, and compare them with the reddish substances taken from worthless speculations, so often palmed upon the credulous public as real gossan.

Thirdly, the direction or bearing of the lode in your sett. This is of greater importance than is generally supposed: where the direction is wrong, whatever other favourable indications may be present, I have seldom known a profitable mine. The best direction for different metals varies very greatly: tin lodes, varying from 30° north of east to 30° south of east (magnetic), a range of 60°, have been found profitable for working. Copper lodes, with a similar range of 60°, but varying from 10° north to 50° south of east, have been found profitably productive; lodes varying from 5° north, to 20° south of east, have yielded the greatest quantity of lead ores. In lodes whose direction is from 20° to 45° south of east, very rich ores are found, but not in very great quantities; in lodes bearing 10° north of east, the ores are generally very poor. The best direction for lead lodes is from 10° west of north to about 40° east of north. I believe the above to be a statement of facts, as found existing in the mines of Cornwall and Devon; the exceptions are exceedingly rare, and when they occur the cause can be ascertained. There is an apparent exception in the St. Just district, but I believe the deposits of copper ores even there may be satisfactorily accounted for, on the assumption that no profitable copper mine exists in Cornwall or Devon, where the deposition has not taken place within the area referred to—viz.: from 10° north to 50° south (magnetic). I have found in numberless instances a rich course of copper ore, while the direction of the lode was 5° north of east, but a turn in the lode taking place of 5° further north the lode would not pay for working. The three particulars above described are, in my judgment, of paramount importance in estimating the value of any locality as a mining speculation. Other indications of minor importance I shall not now stop to describe; but, if on careful consideration, the geological character, size, appearance, and composition of the lode, as well as its direction, are found to be in accordance with the preceding description of the general features of a good mining district, a favourable result may be confidently anticipated. This remark applies only where the three specified circumstances decidedly concur. Intermediate and partial appearances may, for a time, mislead the most cautious and experienced observer, while one, or even two, of them may be very prominent, and yet the third being wanting the whole may prove a failure. Another source of erroneous judgment in estimating the value of a sett may arise from a partial inspection. All lodes are subject to great variations in their direction and size, and where these vary the composition and general appearances usually undergo a corresponding change. Let these circumstances, then, be ever uppermost in your minds—geological fitness, good size, and fair appearance; and, for copper, a direction within the points of 10° north of east and 50° south of east (tin and lead, as already stated, have other bearings); whenever these are found together, you need scarcely indulge a fear of ultimate failure. The remarks already made in reference to the direction of productive lodes, regarded individually, will apply with nearly equal force to the aggregate mining districts in the two counties. If a central line, due magnetic east, be drawn from St. Just on to Tavistock and Exeter, and two other parallel lines be drawn, one north and the other south of this central line, and six miles distant from it, forming a zone of 12 miles breadth, this zone will be found to enclose nearly all the productive mines of tin, lead, or copper in the two counties. On the Dartmoor, perhaps, this zone may be flattened out a little, but the metallic deposits there are proportionably diffused, no considerable quantity being found in any one locality. An opinion has been very prevalent, especially in the western part of this country, that a lode to be productive should be situated to the north of granite—this holds good only to the west of Truro. The great tin and copper district, east of Truro, especially about St. Blazey, lies to the south of granite. The great mining zone does not follow the granite, but continues in the direction of a right angle to the magnetic current; and wherever in that direction the great beds of secondary granite, compact clay-slate, greenstone, white granular killas, and elvan courses are found, there the great deposits of copper and tin have been found. These beds do not everywhere extend to the whole width of the 12 miles, but large tracts sometimes occur, of several miles in length, where the strata are utterly unfavourable for mining operations. The tract extending from Chacewater to several miles east of Truro may be adduced as an example. In strata of this character lead is the only metallic deposit likely to be found: the strata north and south of this 12 miles zone, as far as I have had opportunity of making observations, seem unfavourable for mining operations; hitherto, at least, profitable mining has been almost entirely included within that width.

I wish particularly to impress the leading facts of this address on the memories of the young miners, especially among my hearers. If I am understood and remembered, my object in coming before you will be accomplished. My object is to advance the knowledge of practical mining, not to appear scientific or eloquent. To assist your memories, then, allow me to represent to your imaginations the county of Cornwall, and Devon as far east as Exeter, as a large flat-fish, spread out into the sea. Let the west of Cornwall, from Hayle and Marazion to the Land's-end, represent the head, the rest of Cornwall the body, and Dartmoor and vicinity the chine and tail. Primitive granite will then represent the back bone; secondary granite and compact clay-slate the muscular fleshy fibres, from the back to the sides; greenstone killas, intersected by elvan courses and granular white killas, the ribs and softer parts of the fleshy sides; and the muddy killas, shelly slate, and secondary limestone the fins and belly fat. In the secondary granite and compact clay-slate, nearest the back bone, are the great deposits of tin; in the same strata, a little further removed from the back bone, as well as down the sides, in greenstone, and in killas near elvan courses, also in white killas when granular, you will have to search for copper; branching off at nearly right angles from the copper and tin deposits, in the soft flesh between the ribs, lead will be found; in the back bone itself, and the soft fat, the primitive granite, and the shel-

ing slate, you will find excellent materials for walling and roofing, but no metallic ores to remunerate you for your toil.

I would not by any means have my audience to conclude that no mining strata exist in Cornwall and Devon beyond the 12 miles zone to which mining operations have, for the most part, been hitherto confined. Primitive granite in abundance is found about Camelford, and stretching eastward towards Launceston. I am not aware that the ground in that neighbourhood has been sufficiently examined to ascertain whether secondary granite, granular killas, greenstone, and elvan courses, form its outskirts, and fill up its hollows, as in the existing mining zone; should it prove to be the case, another mining district may hereafter be explored by another generation. Whether the mining zone be hereafter extended in width or not, space enough still exists, either untouched or partially explored, within its present limits, and in suitable strata, to furnish employment for future generations; and if the adventurer applies his capital judiciously in mining operations, and not in gambling speculations on the rise and fall in the price of shares, interchanging large premiums before any mine has been actually discovered, a fair return for his investment may be confidently anticipated. Money lavishly squandered in premiums is a loss to the mining interest, and should be kept in check by every lover of his country and his class.

In concluding this introductory (as I hope it will prove) lecture on mining in Cornwall and Devon, I beg once more to address myself especially to those of my audience, belonging to this Institution, who are practically engaged in mining, either as workmen or agents. You live in a neighbourhood pre-eminently suited to acquire a practical knowledge of what has been brought before you to night—theoretical knowledge alone will only serve to bewilder you. If you store your memory with all the technical terms used by writers on geology and mineralogy, and neglect to observe, collect, and compare for yourselves, you may, indeed, be distinguished and extolled during a discussion in the lecture-room, but you will never benefit yourselves nor your employers. Go into the neighbouring hills, and collect specimens of all the varieties of granite; the whetstone of the western hills; the moorstone of our neighbourhood; the secondary granite, in which we find our rich deposits of tin and copper, and you will find varieties enough to gratify your curiosity. Learn from the cleavage, and other distinguishing marks to which class they belong, the barren or the productive. Follow up your search until the shelves of your museum contain every variety of killas, elvan, and ironstone, connected with the lodes of tin, copper, and lead; and do not neglect to arrange the productive and the unproductive specimens in different groups. Examine carefully, too, the contents of the different sorts of lodes; compare the real gossans found on the backs of our rich lodes with the spurious kinds often exhibited as gossans; minutely examine the appearances of the veinstone (lode stuff) in barren lodes, and in the neighbourhood of rich mineral deposits. Observe how the same elementary substances are affected by their proximity to, or distance from, these deposits. If you then keep in mind the three fundamental mining principles I have endeavoured to lay before you, and illustrate the geological character of the locality, the size, appearance, and contents of the lodes, and their direction, and learn to recognise them readily, by the practical proceedings I am now recommending, you will not fail, I think, to benefit yourselves and the mining interest of the community at large; while, by carefully recording and arranging new facts as they occur, new laws will, probably, be discovered, scientific knowledge advanced, and the way opened for profitable employment to succeeding generations.

IMPROVEMENTS IN MANUFACTURE AND APPLICATION OF PEAT.

In looking at the raw material (Class No. 1) at the Great Exhibition we sought in vain for samples of the products of peat by the party whose name has become of late rather familiar to the public, from the expectations which certain announcements had led it to form, as to the discovery of an improved system of obtaining the very interesting products of that material. In this, however, we have been disappointed, as far at least as the exhibitor goes, but not as to the products and specimens of various articles obtained from peat; for there we find a very extensive collection, made chiefly from the same substance, according to the processes patented by Mr. W. B. Stones, of London, as a communication. It would take too much space to enter into an analysis of the numerous products and educts which are exhibited, nor, indeed, could we for the present undertake to assign the uses to which some of them may be applicable—having received from the gentleman who has prepared them the candid avowal, that for some of the bright and pure-looking liquids it yet remains for him or others to find a profitable application. There are some, however, which are of much interest, and of which the use will be easily understood—such, for instance, as bi-sulphuretted of carbon, made with charred peat instead of charcoal; a peat coke, impregnated with sulphur for making gunpowder; vegetable cerine for heel balls, varnish, &c.; valuable greases for carriages; a compound coke of peat and caking coal-dust, which has been highly approved of for fine metallurgical purposes; and several sorts of manures, which the inventor has termed “huminate.” Of this latter article we cannot refrain from saying a few words, at a time when every thing connected with agriculture, and the means we may have of contending with foreign produce, is of so much moment. In this instance, the inventor has had in view two most essential points in the matter of manure—an article inexhaustible in quantity and consequent cheapness, and composition, such as to suit every species of plant and every soil and climate, always adding really fertilising substance to the soil, accompanied by such agents as the soil may be deficient in, so that there shall be a constant production of the proper fluids which organic life requires to promote and support it, repudiating the use of certain repugnant matter as more expensive than others which are more appropriate, and as communicating poisonous principles to the plant, though in appearance all obnoxious properties were in some instances destroyed—as, for instance, in the case of the treatment of night-soil with charred peat, of which we were favoured with a demonstration. A certain quantity of a black looking substance was brought to us, which we were told was night-soil, treated with charred peat powder. It was quite dry and free from smell; but, on its being mixed with a little lime and water, it again showed its abominable nature—the odour being completely infectious; so much so, that we shall not hesitate to give due praise to any one who shall contribute to prevent the use of such filth for the production of the bread and vegetable which we are to eat; nor can we but agree with the inventor of the “huminate,” that the use as nutriment to plants of such matter as night-soil, putrid animal matter, bones, &c., instead of being used as manure for general purposes, may be altogether dispensed with; and we the more readily set up against such a practice, as we have been made to feel satisfied that Nature has amply provided the means of fertilising our land far beyond what has ever yet been done, by the aid of chemical science, and with cheap and unobjectionable material, and which, in this instance, seems to be carefully observed; and we, therefore, call the attention of the agriculturist to this very interesting subject, than which we know of no one of more importance in the collection which is at present attracting the attention of the whole world. We are assured that various sorts of “huminate,” as suitable to different soils, will soon be sent into the market, and thus submitted to the judgment of those who are best able to appreciate its merits. At all events, we feel confident that the time is come when we shall no longer witness the loathsome practice of importing masses of human bones to serve as manure, and otherwise using in this country all that is most repugnant as nutriment for the production of the first necessities of life—a practice as disgusting and unnatural as any with which we could have to reproach the most barbarous of nations.

MASTERS AND CO.'S PATENT FREEZING-MACHINES AND AERATING WATER-MACHINES.—Amongst the various inventions exhibited at the Crystal Palace, there are few, in our opinion, more truly wonderful than the production of ice in one minute, without the aid of ice, by Masters and Co.'s patent freezing-machine. This machine is the same her Majesty was most graciously pleased to admire so much on its being exhibited to her by the inventor, Mr. Masters, of 809, Regent-street, on whom the highest encomiums were passed for the perfection to which this apparatus was brought, which forms one of the articles of utility, as well as for exhibition, in the Crystal Palace; for we understand that 100 quarts of desert ice are made by it daily for the visitors. Masters and Co.'s aerating water-machine is, as may be inferred from its title, for the purpose of aerating water, wine, dull ale, &c., and to make it as brisk as champagne by fully charging it with carbonic acid gas; and by using some choice syrups, manufactured by Masters and Co., from English and foreign fruits, the most delicious aerated summer beverage can be made. It is of much value, especially; for by its aid that now very expensive, though useful preparation, called Fluid Magnesia, may be prepared at the rate of one penny per quart, which is now sold at 3s. 6d., and also the various saline carbonated waters.

* A lecture delivered at the Camborne Institution, April 29, 1861.

Shares.	Paid.	Last Price.	Present Price.
3048 West Wheel Rose.....	2	2

Shares.		Paid.	Last Price.	Present Price.
2048	West Wheel Rose.....	2	2	
4000	West Wheel Russell.....	3	1½	
500	West Wheel Toward (copper), Hildon	15	14 16	
1024	West Wheel Treasury (copper), Gwinnear	9	9	
1024	West Wheel Virgin (tin), Salsburgh	14	14 2	
1024	Weston (lead), Cherbury, Shropshire.....	4	4	
1070	Wheel Adams (lead), Christow, Exeter	13½	16	
1000	Wheel Agar (copper), Illogan	6	54 5½	
300	Wheel Arthur (lead), near East Wh. Rose	17	49	49
1228	Wheel Arthur (silver-lead & cop.), Calstock	14	6	3 ½
3073	Wheel Augusta (tin), St. Just	1	1½ 2	
340	Wheel Bal (tin), St. Just	8	16 17	
5000	Wheel Caradon (copper), St. Cleer	1	1	
256	Wheel Carpenter (tin), Gwinnear	1½	6 7	
1024	Wheel Caradon (lead & cop.), S. Sydenham	2	2	
134	Wh. Castle and Bowden (tin & copper)	5	3	20
1024	Wheel Chiverton (copper).....	1	1½	
1024	Wheel Crebor (copper), Tavistock	2½	5	
1024	Wheel Crad (copper), Gwennap	1	2	1½
3000	Wheel Dora (tin and copper), St. Cleer	3½	6	
182	Wheel Elizabeth (copper), Redruth	19	8	10
1024	Wheel Emily (antimony and lead)	3	5	
182	Wheel Ennis (lead), St. Erme	12	20	
1070	Wheel Enys	14	—	
1024	Wheel Fortescue (copper), Tavistock	5	14	
764	Wheel Franco (copper), near Tavistock	14½	8 8½	11
1000	Wheel Friendly (tin), St. Agnes	70	65	
1000	Wheel Guskis (tin copper), St. Hillary	1	1	
2048	Wheel Hamlyn, near Oakhampton	1	1	1
2560	Wheel Harriet (copper), Camborne	1	1½	
2048	Wheel Harris (lead), near Tavistock	2	1	
216	Wheel Henry (copper), Kea, near Truro	25	8	
6000	Wheel Langford (copper and silver-lead)	4	14 2	4 ½
2000	Wheel Langmaid (lead).....	4	13 1	
1000	Wheel Lemon, Germoe	13½	1	
1024	Wheel May (silver-lead and copper)	24	2½	
990	Wheel Mary (copper), Redruth	16	7 ½	
1024	Wheel Mary Ann (copper), Bridestow	—	2	
1024	Wheel Mary Anne, Tavistock	14	31 3½	
1024	Wheel Neopane (copper), Paranthorn	1	3	
1080	Wheel Oak, near Helston	14	14	
3000	Wheel Penhale (lead and copper)	22	4½	4½
128	Wheel Penny (copper), Redruth	19	38 39	
128	Wheel Pollard (copper), St. Cleer	15½	10	
210	Wheel Prospect	4	7	
5000	Wheel Providence, South Sydenham	4	3	
256	Wheel Prudence (copper), St. Agnes	2½	5	4
4000	Wheel Russell (copper), Tavistock	14	14	
5000	Wheel Ruth (tin), Shepton	2	2	
612	Wheel Sophia (silver-lead), Lizard	7	7	
1024	Wheel Spence (copper and tin)	14	14	
1024	Wheel Squire (copper), St. Erth	14	14	
1024	Wheel Stansgwyn (copper), St. Stephen's	1	10	1½
1000	Wheel Susan, Breage and Crowan	14	2	
1024	Wheel Sydney, Plympton	14	4	
2000	Wheel Tun (tin & copper), Stoke Clims	5	11½	
512	Wheel Trefusis (copper), Gwennap	7½	17 18	17
1024	Wheel Trelobuck (copper), Stythians	5	5	
356	Wheel Tremaine (copper), St. Ervan	11	2½	
3300	Wheel Trecoili (tin), Lanivet, Bodmin	3	14	
4224	Wheel Trewane (silver-lead), St. Kew	14	2½	
267	Wheel Tryphema (tin and copper)	40	18½	
1024	Wheel Uney (copper), Redruth	2	18	
1024	Wheel Ury (tin and copper)	2	5 ½	
1024	Wheel Venton (silver-lead), Liskeard	34	6½	
1000	Wheel Vincent (tin), Alternun	7½	6½	
128	Wheel Violet (tin and cop.), St. Stephens	5	8 20	8
5200	Wicklow (copper), Wicklow	5	20½	

Shares.		Paid.	Last Price.	Present Price.
1900	Keewick (lead), Portinscale, near Keewick	11	2 3	..
7424	Kingest & Bedford (lead and copper)	44	2 1	2
746	Kirkcudbright (tin), Kirkcud.	92	4	..
1024	La tin (Gwinesale) (tin and copper)	34	6	..
1742	Lanheroe (wheat Maria) (copper tin)	12	10 11	19
5000	Lampen Consols (copper), St. Neot	4	5 1	5 6
252	Lanarh Consols (copper), Gwennap	57	22	..
252	Lelant Consols (tin), Udy Lelant	10	9	..
1000	Llynymalees (lead), Cardiganshire	50	50	..
3600	Llynvi Iron (iron)	7	10	..
5000	Low's Patent Copper Company	10	34	..
6000	Low's Valley (copper), Caradon	32	2 1	..
1024	Mendip Hills (lead), near Bristol	24	3	3 1 4
5000	Merilyn (lead), Ffilm, near Bristol	25	2	4
1024	Mill Pool (tin and copper), St. Hilary	25	3	..
256	Mineral Court (tin), near St. Austell	1	1 1	..
90000	Mining Co. of Ireland (copper, &c.)	7	8 1	4 1
1024	Moditonham & Murrabro' (copper & lead)	1	2 1	..
2000	Molland	8	1 1	..
1024	Montgomery (lead and copper)	2	3	..
160	Morvah Consols (tin and copper)	34	3 4	..
320	Nansogollan (tin and copper), Camborne	34	3 4	..
2000	Nanteos (lead), Cardiganshire	2	5 1	..
5000	Nant-y-Car (copper), near Rhyadref	13	12	..
3000	New Copper Bottom (copper) Bridestowe	14	13	..
2048	New East Crowndale (copper and tin)	5	13	..
1024	North Buller (copper), Redruth	—	26	..
256	North Fowey Consols	14	3	..
5000	North Levant (tin and copper), St. Just	—	24	2 1
2000	North Tamar Consols (silver-lead & cop.)	5	14	..
256	North Trevellick (copper and copper), Looe	9	16	13 14
1200	North Wh. Buller, or Gt. South Tolgus	14	12	..
256	North Tolgus (copper), Redruth	14	12	..
262	North Wheal Lelsure, Ferranzabulo	2	3	..
1024	North Wh. Robert (copper), Walkhampton	4	12	..
2048	Okel Tor (lead)	1	1 1	..
512	Old Brimpts (tin), Lydford, Ashburton	1	2 1	..
1024	Old Wheal Bassett (copper), Redruth	34	6	..
1026	Pendree Consols (copper), Camborne	1	3	..
1000	Pendurage and St. Cwynn (tin and copper)	3	3 1	..
406	Penhagar (lead)	24	14 2	14 2
4934	Pennant and Craigwen (lead)	15	15	..
1000	Penral	54	52 7	..
2048	Pentire Glaze (silver-lead), St. Minver	4	6 1	..
1000	Pen-y-bank and Erglodd (lead)	24	14 2	..
1000	Penzance Consols (tin), Saneered	34	15 20	14 2
1024	Peter Tavy and Mary Tavy (copper)	—	340	..
320	Piccadilly Consols (copper), Linkinghorne	14	15	..
9048	Plymouth Wh. Yeoland Con. (tin), Plym.	15	15	..
1000	Pobberro (tin), St. Agnes	1	17 1 1	..
2000	Polgegar (copper and tin), Towendack	1	1	..
1024	Præd Consols (tin), Towendack	50	12	..
1024	Prince Albert (tin), Ferranzabulo	7	3	..
2500	Rhoswydd and Bacheiddon (lead)	6	12	..
0000	Rhymney Iron (iron), Rhymney	7	4	..
0000	Ditto New	3	3 1	..
5000	Rocks and Trevellick (tin), St. Austell	3	3 1	..
2048	Runnaford Coombe (tin)	3	3	..
2048	Sidney Goldolphin (copper), Breage	3	3	..
3048	Snowdon (copper), Carnarvonshire	14	1	1
2000	South of Scotland	10	8 1	..
3000	South Carn Brea (copper), Illogan	30	28 30	..
1024	South Plain Wood (copper), Ashburton	4	7 1	..
1024	South Speed (copper and tin), Udy Lelant	15	30	..
3000	South Trevellick (silver-lead), Ben Farn	1	17 2	1 2
256	South Wales Mining Company (lead)	334	4 5	4
256	South Welsh Josiah (copper), Calstock	2	2 1	2
280	Spearoe Moor (copper), St. Just	30	40	..
1024	St. Aubyn and Grylls (copper and tin)	24	5 5 1	5 1
1024	St. Enoder (copper and lead) St. Enoder	1	1 1	..
999	St. Minver Consols (silver-lead)	1	5	..
587	St. Trevellick (copper), near Tavistock	84	13	..
128	Takenbury (copper), Ize, Liskeard	24	3	..
1200	Talcarnon (tin and copper), Camborne	14	8	..
1024	Trannack and Bosence, St. Erth	14	14	..
1024	Trannack United Mines (tin and copper)	1	5	..
1024	Trebarrah, Ferranzabulo	12	14 1 1	..
2048	Trebell Consols (tin and copper), Lanivet	1	5	..
600	Tregardock (lead), St. Teath	24	24 2 3	..
1120	Tregodan (silver-lead) Wadebridge	48	5 7	..
5000	Trevellick Consols (copper), Redruth	4	5 6	..
1000	Trevellick, St. Erth	4	5 6	..
600	Trevellick Consols (tin), St. Ive's	4	5 6	..
1024	Tremar (copper), Liskeard	14	14	14
3000	Treant (copper), Helston	6	5	..
5000	Trecaut (lime quarries)	214	214	..
512	Trethvey (copper), St. Cleer	94	54	6
512	Trevile (lead), Lewannick	28	9	..
504	Trowa Consols (tin), Towendack	1	1	..
100	Trumpet Consols (tin) near Helston	96	100 105	..
1000	Tylydd (lead), Cardiganshire	3	34	..
4000	Tyn-y-Worgold (alate), near Carnarvon	4	4 5	..
500	Tywarhnyae (cop.), Illogan & St. Agnes	60	31 1	..
512	Tywardreath (copper), St. Blazey	2	10	..
1024	United Mines (copper and tin), Tavistock	10	10	..
300	United Mines (copper), Gwennap	300	60 90	92 1
5000	Wargrave Consols (copper)	3	19	19
1024	West Alfred Consols	7	7	..
5000	West Bassett (copper), Illogan	54	53	56
256	West Damsel (copper), Gwennap	6	34	34 34
1024	West Ding-Dong (tin)	2	14	..
1024	West Downs (copper and tin), Whitchurch	40	60	..
512	West Fowey Con. (tin & cop.), St. Blazey	18	8	..
3048	West Goginan (silver-lead), Cardiganshire	1	1	..
1020	West Nantymwyn	1	11	..
1024	West G. G. Cons. (copper), St. Blazey	4	4	..
1024	West Phoenix, Linkinghorne	1	1	..
5000	West Polgooth (tin), St. Ewe & St. Mewan	10	85	85
512	West Providence (tin), St. Erth	67	115 120	..
300	West Seton (copper), Camborne	23	49	..
256	West Sharp Tor (copper) Linkinghorne	28	3	..
940	West Shepherd (silver-lead and copper)	15	54 54	5
180	West Tolgus (copper), Illogan	15	23	..
5000	West Trevellick (copper), Gwennap	1	14	..
1024	West Wheal Alfred	7	19	16 1
512	West Wheal Frances (copper), Illogan	3	3	..
1024	West Wheal Friendship (copper)	12	12 1 1	..
3716	West Wheal Jewel (tin and copper)	8	8	..

Shares.	FOREIGN MINES.	Paid.	Present Price.
5000	Altan Mining Company (copper), Norway	14	...
12000	Annotto Bay Mining Association (copper), Jamaica ..	1	54 6
19000	Australian (copper), South Australia	4	...
19000	Bellington (copper), Gold Coast	23	4 1/2
12000	Colbre Copper Company (copper), Cuba	40	38 1/2
10000	Coplapo Mining Company (copper), Chili	14	6 1/2
20000	General Mining Association (iron & coal), Nova Scotia ..	30	14
3250	Kinzighal Mining Association (silver), Germany	2 1/2	...
12000	Liguanea and General Mining Company of Jamaica ..	1	...
5000	Linares (lead), Spain	3	24 5/8
500	Ditto Preference	3	24 1/2
4500	Ditto Additional	1	1 1/2
5551	Mexican Company (silver), Mexico	59 1/2	...
2000	Mexican and South American (copper), Mexico	4 1/2	41 1/2
5000	National Brazilian (gold), Brazil	30	2 2 1/2
104000	North British Australasian (copper), S. A. & New Zea. ..	1	...
7000	Royal Santiago (copper), Cuba	10	73 7/8
11000	St. John del Rey (gold), Brazil	18	18 1/2
43174	United Mexican (silver), Mexico	29 1/2	21 2 1/2
10000	Worthing (copper), Adelaide, South Australia	3	...

The number of pumping-engines reported for the month of May is 27—the quantity of coals consumed being 3691 tons, lifting, in the aggregate, 35,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 52,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch on plat.	Strokes per min.	Consump- tion of coal in bus.	Millions lifted 1 foot by consump. of 1 bush.coal.	Lifted 1 foot by 1 ton of coal.
Great Work.	Leed's 60-in....	9'0	55,343	15'2	8'5	2174	61'6	74
Wh. Tremayne	36-inch.....	9'0	31,277	23'6	9'7	1600	53'0	63
W. H. Treasury	40-inch.....	9'0	30,952	21'9	6'9	1320	52'8	63
E. Wh. Croft	Trevenson's 80	10'38	82,333	12'2	7'0	3659	55'9	66
Carn Brea....	76-inch.....	8'25	87,169	15'1	4'6	2062	53'8	64
Ditto	Sims's 50 & 90	9'0	60,882	24'1	5'0	1358	63'6	76
Poldice.....	Sims's 85-inch	10'38	78,907	9'6	11'5	4576	62'5	73
S. W. Frances	75-inch.....	11'0	69,165	12'8	8'9	2440	62'0	74
United Mines	Ditto	11'0	98,491	16'7	6'4	4844	60'1	72
Ditto	Carlson's 90-in.	9'0	100,422	15'8	7'0	5410	53'6	66
Ditto	Loam's 85-inch	10'0	87,947	11'6	8'3	4724	54'4	64
Ditto	Hocking's 85-in.	10'0	97,817	14'4	8'0	5461	55'6	66
Tywarnhayle.	Gardiner's 80-in	10'0	80,437	12'8	8'2	4050	56'7	68
East Wh. Rose	Penrose's 70-in.	10'0	82,556	19'0	8'0	2980	53'8	64
Ditto	Michell's 85-in.	10'0	82,991	13'1	3'5	1792	63'3	75

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY, -Bate's West Hartley 12 6-East Alder's Main 11-Holywell 13 6-Ho-ward's West Hartley Netherton 13 6-North Percy Hartley 13 6-New Tansfield 12 6-Wyham 13-Wall's End Acorn Close 12-Elm Park 11 9-Gosforth 13 9-Walker 1 9-Eden Main 13-Braddylly 13 9-Hetton 14 3-Hawwell 14 3-Russell's Hetton 13 9-Richmond 13 3-Denison 12 3-Hugh Hall 13 3-Kelloe 13 9-South Hartlepool 13 6-South Kelloe 13 3-West Hartlepool 13 6-Whitworth 12-Maclean's Tees 13 3-Tees 14-Hartley 13 6-Nixon's Merthyr and Cardiff 21-Sidney's Hartley 13 9-Ships at market. 113: sold. 42.

WEDNESDAY.—Ben's West Hartley 13 6—Buddle's West Hartley 13—Carr's Hartley 13 6—Chester Main 12—Davison's West Hartley 13 6—East Adair's Main 11 3—Holywell 13 6—Howard's West Hartley Netherton 13 6—Jonassohn's Hartley 12—Longbridge's West Hartley 13—North Percy Hartley 13 6—North Main 11 6—Randell Moor 13 6—Ratcliffe's West Hartley 13 6—Ratcliffe's West Hartley 12 9—Horsfield's West Hartley 13 6—Northumberland 12 3—Walker 11 9—Eden Main 13—Braddyll 13 9—Heaton 14—Hawwell 14 3—Keppler Grange 13—Lambton 14—Richmond 13 9—Stewart's 14—Whitwell 13 6—Tension 12—Hartpool 14—Tough Hall 13—Kellace 13 6—North Hartley 13 6—South Tees 14—Hartley 13—White Hartley 13 6—Whitwell 13 6—Tees 11 3—South Durham Tees 14—Hartley 13—Adelaide Tees 13—Ships at market, 23rd; sold, 94.

FRIDAY.—Bate's Wt Hartley 12 6—Buddle's West Hartley 13—Davison's West Hartley 13—Howard's West Hartley Netherton 13—Longridge's West Hartley 13—Ravensworth West Hartley 13—Tanfield Moor Butes 12—Wall's End Gosforth 12 6—Robinson 12 3—Hedley 13 3—Lawson 12—Morrison 12 6—Lambion Primrose 13 3—Brady 13 3—Hetton 14—Haswell 14 3—Lumley 12 6—Russell's Hetton 13 6—Richmond 13 3—Hartlepool 14—Heugh Hall 12 9—Kellie 13 9—South Hartlepool 13 3—South Kellie 12 9—Thornley 12—West Hartlepool 13 6—Whitworth 12—Adelaide Tees 12—Tees 14—Hartley 13—Ships at market, 145; sold, 85.

Delivery of coals, &c., in the port of London during the month of May :-			
	<i>Ships</i>	<i>319</i>	<i>Tons</i>
Newcastle	319	96,319	
Sunderland	156	46,414	
Seaham	156	38,463	
Stockton, Middlebro', &c.	275	73,601	
Blyth	34	7,904	
Scotch	8	486	
Welsh	47	1,311	
Yorkshire, &c.	3	1,136	
Small coal	3	591	
Culm	3	510	
Cinders	2	61	

Total imported in May, 1851	1026	275,635
Imported in May, 1850		292,666
nland coals brought by canal, in the month of April, 1851, upon which the City's and other dues were received		16481
nland coals brought by railway, the City's and other dues upon which were paid into the Chamber in the month of May, 1851		77391

Imported from January 1 to May 31, 1850	Ships	4747	1,352,100 tons.
Imported from January 1 to May 31, 1851	"	4689	1,295,832 "
Decrease in the present year	"	58	56,268 "

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